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Barnes' Foot-Power Machinery.

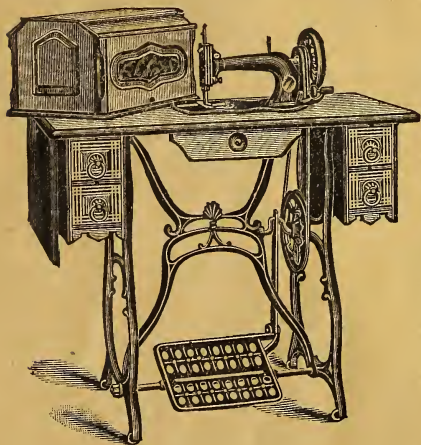


When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT.

TAKE NOTICE!

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THE NEW FAMILY SINGER SEWING-MACHINE.

A. I. ROOT, Medina, Ohio.

NICKEL-PLATED "LEADER" SHEARS.



Elegantly Nickel-Plated Steel Shears At Less than Half the Usual Price.

TABLE OF PRICES.			Prices		
Postage.	Name and size.		Each.	$\frac{1}{2}$ doz.	3 doz.
5	6 inch	nickel Leader Shears.....	\$ 20	\$1 10	\$ 6 00
5	6½ "	" " " "	25	1 25	7 00
7	7 "	" " " "	30	1 40	8 00
5	7½ "	" " " "	35	1 60	9 00
5	8 "	" " " "	40	1 80	10 00
6	8½ "	" " " "	45	2 00	11 00
7	9 "	" " " "	50	2 25	12 00

A. I. ROOT, Medina, O.

ONE COLONY Saved from Death the Coming Winter Would Repay the cost of a copy of "ADVANCED BEE CULTURE" ten Times Over. In 5 of its 32 Chapters may be Found the Best That is Known upon Wintering Bees. It costs 50 cents but its Perusal may Make you \$50 Richer next Spring. The "REVIEW" and this Book for \$1.25. If not Reacquainted with the "REVIEW," send for Samples. **W. Z. HUTCHINSON, Flint, Michigan.**

Job Lot of Wire Netting.

CUT PIECES AT A LOWER PRICE THAN FULL ROLLS.

Having bought from the factory, at our own price, five or six hundred remnants, as listed below, we are able to give you the choice of a great variety of pieces at the price of a full roll or lower. Full rolls of netting are 150 ft. long, and when they are cut we have to charge nearly double the full-roll rate, because it is so much trouble to unroll, measure, and cut, and run the risk of having a lot of remnants on hand. No doubt it is in this way that the following remnants have accumulated. It costs a good deal to get all this in shape so we can easily pick out from the lot the piece you want. But to move it off quickly, we put the price down so you can all have a chance at it. Remember, first come, first served. In ordering, therefore, name a second or third choice, or say that we may send the nearest we can if the piece selected is gone. On 5 pieces deduct 5 per cent, on 10 pieces 10 per cent. These remnants are shipped only from here. If any of you want to secure some, and don't want them shipped till later, when you will order something else, so as to save freight, pick out the pieces you want, send remittance with the order, with request to lay by till called for, and we will mark them as belonging to you. We prefer to ship them right out, however.

LIST OF POULTRY-NETTING REMNANTS.

Width in in's.	Size of Mesh.	No. of Wire.	Us. p. Sq. Ft.	Length of each piece. Multiply by the width in feet to get the number of square feet in each piece. Then multiply by the price per foot for the price per piece.
2	2	20	8	27.
72	2	19	8	103, 100.
72	2	18	1	61, 53, 48, 35, 22, 22.
36	2	17	13	23, 15.
36	2	16	13	23, 18 in. wide, 40; 24 in. wide, 94, 88.
72	2	16	13	60, 58, 56; 30 in. wide, 46, 24; 48 in. wide, 48.
18	2	15	2	87, 30; 12 in. wide, 100.
24	2	15	2	100, 90, 69, 52, 33, 13, 12, 60 in. wide, 21, 20.
42	2	15	2	131, 23, 8; 72 in. wide, 36, 33, 9.
48	2	15	2	72, 49, 48, 43, 38, 37, 30, 29, 26, 14.
30	1 1/2	19	1	33, 36 in. wide, 47.
42	1 1/2	19	1	85, 59; 60 in. wide, 56; 72 in.
18	1 1/2	18	1 1/2	40, 14; 54 in., 12; 69 in., 34.
30	1 1/2	16	2 1/2	79; 36 in., 14; 42 in., 34; 48 in., 92.
36	1 1/2	19	1 1/2	22
36	1 1/2	19	1 1/2	48, 12, 24 in., 42; 30 in., 75; 48 in., 78.
36	1 1/2	18	2	15, 10; 42 in., 80; 48 in., 22; 72 in., 8.
48	1	20	13	53; 72 in., 51; 30 in., 96; 9 in., 40.
24	1	19	2	26; 9 in., 24; 42 in., 50, 34; 48 in., 100, 40; 60 in., 18 in., 50.
32	1	18	2 1/2	83; 24 in., 23; 30 in., 69.
36	1	18	2 1/2	48 in., 30; 60 in., 59.
9	3/4	20	2 1/2	7; 36 in., 55.
24	3	16	1	19; 36 in., 86, 42 in., 14.
36	3	15	1 1/2	63; 48 in., 60.
48	3	14	1 1/2	45; 72 in., 100, 70.
14	4	14	3	166, 52, 35, 23.
22	4	14	4	107, 68, 35, 17, 15.
30	4	14	4 1/2	52, 47, 36, 33, 30, 29, 19, 18, 13, 9.
34	4	14	4 1/2	43, 37, 34, 25, 24, 23, 18.
42	4	14	5	68, 62, 62, 23, 22, 22, 15, 12, 12, 12, 8, 6.
46	4	14	5 1/2	82, 50, 44, 11, 5.
18	8	13	2	68 ft.; 36 in., 200 ft. at 4c; 45 in., 247 ft. at 5c.

Four and eight inch fencing. Price in fourth column is the price per foot in length.

A. I. ROOT, Medina, O.

SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap. **NOVELTY CO.,** 6tfdb **Rock Falls, Illinois.**

In responding to this advertisement mention GLEANINGS.

Wire Cloth.

For door and window screens, tacking over hives and nuclei for shipping, making bee and queen cages, and a variety of purposes. We have the following list of green and black wire cloth which is not exactly first class, but is practically as good for the purposes mentioned, and at prices MUCH BELOW the ordinary price. You can no doubt select from this list a piece to suit your needs. Price in full pieces, 1 1/2 cts. per square foot. When we have to cut it, 2 cts. In case the piece you order may have been taken by some one else before your order comes, please say whether we shall send the nearest in size, or cut one the size ordered at 2 cts. per ft., or give a second or third choice.

No. of Rolls, and Color.	Width, In's.	Length, Ft.	Sq. Feet.	Price of a Full Roll.	Pieces less than 100 ft. long. These figures are the number of square feet in each piece. Multiply by 1 1/2 cents for the price of piece.
10 green	8	100	67	\$1.17	65, 64, 63, 63, 63, 62.
25 green	12	100	100	1.75	
5 green	24	100	200	3.50	140, 8, green; 200 black.
35 green	26	100	217	3.50	This is below reg. pr. of 1 1/2 c.
14 green	28	100	233	4.08	224, 224, green.
15 green	30	100	250	4.37	
11 green	36	100	300	5.25	
6 black	38	100	317	5.54	269, black; price \$4.70
5 green	38	100	317	5.54	
3 black	40	100	333	5.83	
7 black	42	100	350	6.12	
15 green	50	100	437		

A. I. ROOT, Medina, Ohio.

LITHOGRAPH LABELS

In 12 Colors, at \$2.00 per 1000.

The 12 colors are all on each label. They are about oblong in shape, measuring 2 1/2 x 2 1/2. They are about the nicest labels we ever saw for glass tumblers, pails, and small packages of honey. We will mail a sample, inclosed in our label catalogue, free on application, and will furnish them postpaid at the following prices: 5 cts. for 10; 25 cts. for 100; \$1.00 for 500; \$1.75 for 1000. **A. I. ROOT, Medina, O.**

Wants or Exchange Department.

Notices will be inserted under this head at one half our usual rates. All advertisements intended for this department must not exceed five lines, and you must say you want your adv't in this department, or we will not be responsible for errors. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices of offering articles for sale, can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED—To exchange wall paper, from 5c a roll and up, for honey. **J. S. SCOVEN,** 12tfdb **Kokomo, Ind.**

WANTED—A good Christian housekeeper without incumbrance, to keep house for a family of three adult persons. 22-23d **J. L. CLARK, Apalachicola, Franklin Co., Fla.**

WANTED—To exchange bee-supplies for extracted honey. 22-23d **J. M. KINZIE, Rochester, Oakland Co., Mich.**

WANTED—To exchange a lot of medical works, shotgun, and a slat and wire fence machine, for Dovetailed hives, fdn. mills, fdn., perforated zinc, wax, or anything useful. Write for particulars. **JAS. A. MINNICK, P. O. Box 162, Anderson, Ind.**

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HONEY COLUMN.

CITY MARKETS.

ALBANY.—Honey.—There is a slight falling off in demand, and prices are somewhat easier on comb honey, and we think the height of the season is about over. The demand for extracted, however, is improving, as large quantities are now being used by confectioners and manufacturers of cough syrups. We quote: Fancy white-clover, 14; medium, 12@13; mixed, 10@11. Buckwheat, 9@10. Extracted, 6@8.
CHAS. McCULLOCH & CO.
Oct. 20. 393, 395, 397 Broadway, Albany, N. Y.

MINNEAPOLIS.—Honey.—Honey in this section of the country is very scarce; in fact, much more so than last year. Prices are ranging, for fancy white comb honey in 1-lb. sections, from 18@20; dark honey is slow sale at from 14@16. We think the demand will hold up, and the probabilities are that fancy honey will go much higher in the next 30 days.
J. A. SHEA & CO.,
Nov. 13. 14 & 16 Hennepin Ave., Minneapolis, Minn.

NEW YORK.—Honey.—Demand for comb and extracted honey is not what it should be this time of the year. Trade is not healthy, and the only thing we can account for its being so is the abundance of fruit the past season, and the cheapness of sugar. We quote to-day as follows: Fancy white-clover, 1-lb., 14@15; 2-lb., 12. Fair white-clover, 1-lb., 12; 2-lb., 10; buckwheat, 1-lb., 10; 2-lb., 9. Extracted, clover, 7; buckwheat, 5½. *Beeswax*, 26@28.

CHAS. ISRAEL & BROS.,
New York.

Nov. 20.

CHICAGO.—Honey.—Good demand for fancy white honey in 1-lb. sections at 16c. Other grades white, 14@15. Extracted honey selling slow, owing to warm weather. Quote selling 6½@7½. *Beeswax*, light supply, good demand at 26@27.

S. T. FISH & CO.,

Nov. 20.

189 So. Water St., Chicago, Ill.

KANSAS CITY.—Honey.—Supply large. We quote: 1-lb. white, 15@16; 1-lb. dark, 12; extracted, white, 7@7½; dark, 5@6½. *Beeswax*, none on the market.

HAMBLIN & BEARSS,

Nov. 20.

514 Walnut St., Kansas City, Mo.

NEW YORK.—Honey.—Honey remains quiet. Comb, 1-lb. white, 14@14½; 2-lb., 11. Extracted, light amber, Cal., 7@7½; basswood, 7@7½; buckwheat, 5½@6½; Southern, 65@75 per gallon. *Beeswax*, 26@27½.

F. G. STROHMAYER & CO.,

Nov. 20.

New York.

CHICAGO.—Honey.—The demand for white comb honey is quite good, and sales are made at 16c, when in good order. Dark comb is slow, and sells in an uncertain way at 9@13. Extracted, 6@8, chiefly selling at 7.

R. A. BURNETT,

Nov. 19.

161 S. Water St., Chicago, Ill.

ST. LOUIS.—Honey.—There is little of an encouraging nature to report in regard to the honey market. The trade is very quiet, and prices unchanged.

D. G. TUTT GRO. CO.,

Nov. 20.

St. Louis, Mo.

PHILADELPHIA.—Honey.—Choice 1-lb., 15@16; medium 1-lb., 14. *Beeswax*.—Choice yellow, 25; medium, 23@24.

SCHOEMAKER & SCHULTZ,

Nov. 20.

No. 30 S. Water St., Philadelphia, Pa.

PORTLAND.—Honey.—There has been one or two lots of honey offered here, but the Oregon bee-man wants more money than the dealer can pay. This market is entirely supplied with the California product. Another great misfortune with the Oregon farmer is, that he does not put his honey in a merchantable shape, and sends it into market in a broken condition. Prices are about as our last.

LEVY, SPIEGEL & CO.,

Nov. 19.

Portland, Oregon.

SAN FRANCISCO.—Honey.—Honey sells quite freely and stocks are getting reduced. We quote extracted honey, 5½@6½c; comb, 10@14c, according to quality. *Beeswax* scarce, and in good demand at 23@24c.

SCHACHT, LEMCKE & STEINER,

Nov. 11.

San Francisco, Cal.

CINCINNATI.—Honey.—There is a good demand for extracted honey from jobbers and manufacturers. It brings 5@8c on arrival. Demand for comb honey is good at 12@16c for best white in a jobbing way. *Beeswax*, demand is fair at 23@25c for good to choice yellow on arrival.

CHAS. F. MUTH & SON,

Nov. 26.

Cincinnati, O.

BOSTON.—Honey.—Our market is well supplied with honey. Selling from 14@16c for 1-lb. sections. Extracted, 7@8c. *Beeswax*, none on hand. Demand good.

BLAKE & RIPLEY,

Nov. 24.

Boston, Mass.

KANSAS CITY.—Honey.—Receipts and demand are fair. 1-lb. white comb, 15@16; dark, 10@12. Extracted, white, 7@7½; dark, 5@9. *Beeswax*, receipts light, 23@26.

CLEMONS, MASON & CO.,

Nov. 20.

Kansas City, Mo.

DETROIT.—Honey.—White comb honey is selling at 12@13; a very nice article would possibly bring 14. Extracted, 7@8. *Beeswax*, 25@26.

Nov. 21.

M. H. HUNT,

Bell Branch, Mich.

FOR SALE.—Extracted honey, basswood, mesquite, alfalfa, sage, and other varieties. Lowest prices. Correspond with us.
S. T. FISH & CO., 189 So. Water St., Chicago, Ill.

FOR SALE.—6000 lbs. extracted honey, in 60-lb. cans. C. H. STOROCK, Durand, Winnebago Co., Ill.

FOR SALE.—25,000 lbs. of buckwheat extracted honey, in 200, 350, and 500 lb. packages, f. o. b., at 6½c.
W. L. COGSHALL,
West Groton, Tompkins Co., N. Y.

FOR SALE.—Honey, in 3-lb. tin fruit-cans, at 25c per can—100 of these, and 50 7-lb. pails, at 50c per pail. This honey was gathered from alfalfa. Will mail sample if wished, or deliver honey boxed at above price at depot.

J. B. COLTON, Garden City, Kansas.

FOR SALE CHEAP.—10 bbls. extracted honey mixed with honey-dew. Quality good. Will sell in any quantity desired. Price on application. Sample sent for a two-cent stamp.

Will some of your subscribers please give me, through the columns of GLEANINGS, some information of the honey resources of the Piedmont region of Virginia, North Carolina, and Georgia? Which of these States do you consider the best for the production of honey? Does Virginia produce much white-clover or basswood honey? Would especially like information regarding that region of Virginia from Basic City and Charlottes, southwest along the Shenandoah Valley R. R., and the Virginia Midland R. R., also of Haralson Co., Ga., and adjoining counties. Any information you can give me will be thankfully received.

EMIL J. BAXTER, Nauvoo, Hancock Co., Ill.

FOR SALE.—Barnes foot-power saw, has ½ inch cut-off saw, ½ in. rip, ¼ in. rip, ¼ in. cut off, ¼ in. miter, ¼ in. very thin for perforated zinc slots, all in first-class order, f. o. b., \$25.00.
E. D. KEENEY, Arcade, N. Y.

FLORIDA ORANGES,

And here is where you can raise them.

AT 1-2 PRICE, in 5 and 10 acre lots, for cash or on long time, one-third of a 300-acre tract of one of the choicest pieces of natural orange land there is in the State, being Rich, Heavy, High, Gray Hammock; 2½ miles from railroad, healthy section, pure water, good roads, clear title. For particulars, address **A. F. BROWN, HUNTINGTON, PUTNAM CO., FLA.** Please mention this paper.

EARLY QUEENS.

In March and April, from apiary in Texas, the choicest 5-banded stock, warranted purely mated. One, \$1.25; 6 for \$6.00.

BREEDING QUEENS.

\$3.00 to \$5.00 each. All orders filled promptly. Send your name NOW for full particulars. Safe arrival and entire satisfaction guaranteed or money refunded. Orders booked now, pay when you want the queens. 1-24db

S. F. & I. TREGO, SWEDONA, ILL.

In writing to advertisers please mention this paper.

BEE-HIVES, SECTIONS, ETC.

We make the best goods and sell them cheap. Our Sections are far the best on the market. Our Works turn out the most goods of any factory in the world. Our goods are known as the best throughout the United States and Europe. Write for free, illustrated catalogue and price list.

G. B. LEWIS CO., WATERTOWN, WIS.

Please mention this paper.

1tfdb

Hatch Chickens by Steam. IMPROVED EXCELSIOR INCUBATOR



Will do it. Thousands in successful operation. Simple, Perfect and Self-Regulating. Lowest-priced first-class Hatcher made. Guaranteed to hatch a larger percentage of fertile eggs at less cost than any other. Send 6c. for Illus. Catalog. GEO. H. STAHL, Quincy, Ill.

Please mention this paper.

Cash for Beeswax!

Will pay 25c per lb. cash, or 28c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 31c per lb., or 35c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Porter's Spring Bee-Escape.

We guarantee it to be the best escape known, and far superior to all others. If, on trial of from one to a dozen, you do not find them so, or if they do not prove satisfactory in every way, return them by mail within 90 days after receipt, and we will refund your money.

PRICES:—Each, by mail, postpaid, with full directions, 20c; per dozen, \$2.25. Send for circular and testimonials. Supply dealers, send for wholesale prices.

10tfdb **R. & E. C. PORTER, LEWISTOWN, ILL.**

In responding to this advertisement mention GLEANINGS.



A glimpse of our Factory, now making carloads of Dovetailed Hives, Lang. Simp. hives, plain Lang. hives, Alternating hives, Chaff hives, sections, etc. Many articles not made by others.

We can furnish, at wholesale or retail, Every thing of practical construction needed in the apiary, and at Lowest Prices. Satisfaction guaranteed. Send for our New Catalogue, 51 illustrated pages, free to all. 4tfdb

E. KRETCHMER, Red Oak, Iowa.

In responding to this advertisement mention GLEANINGS.

—MY NEW— THIN DOUBLE-WALL HIVE

Is the best summer and winter hive yet devised. Takes regular "L" furniture. Is higher than ¾ single-wall hive; may be storified to any extent, etc., etc. Send for descriptive circular. Special low prices for 1891 to introduce it. A full line of bee-keepers' supplies always in stock. Catalogues free.

C. W. COSTELLO, Waterboro, York Co., Me.

Please mention this paper.

15-19-23.1

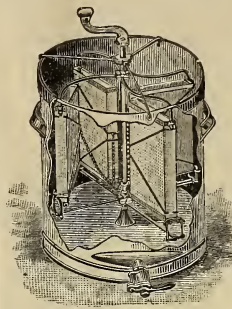
EVERY THING USED BY

BEE - KEEPERS.

EDWARD R. NEWCOMB.

Pleasant Valley, N. Y.

CATALOG FREE



5tfdb

Please mention this paper.

BEE - HIVES ! SECTIONS !

AND ALL APIARIAN APPLIANCES.

Our Motto : Good Goods and Low Prices.

Catalogue free for your name on a postal card.

LEAHY M'F'G CO.,

HIGGINSVILLE, Mo.

14tfdb

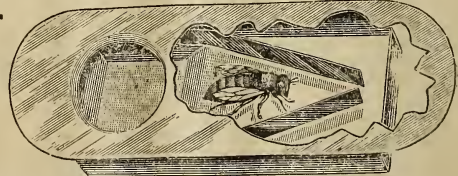
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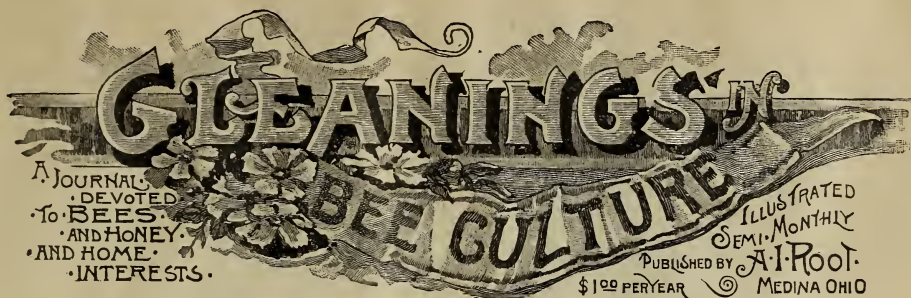
POULTRY. Choice Fowls and Eggs for sale at all times. Finely illustrated circular free. **GEEK BROS., St. Marys, Mo.** 21tfdb

A Four-Color Label for Only 75 Cts. Per Thousand.

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½ x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, O.





Vol. XIX.

DECEMBER 1, 1891.

No. 23.

STRAY STRAWS

FROM DR. C. C. MILLER.

On to Albany!

THE CHICAGO CONVENTION was a grand one.

THE MISSOURI STATE SOCIETY has 106 members. Pretty good for Missouri.

IN TRANSFERRING, is it really worth while to have wires in the frames at all?

"NEW BEGINNERS" are spoken of a great deal. When do they get to be *old* beginners?

ELECTRICITY. Henry K. Staley thinks (*A. B. J.*), should be used to turn extractors, and to announce the issuing of swarms.

COMPETITION with California honey is spoken of on page 878. Please, sir, Mr. Editor, why do you speak of that any more than competition with New York honey or Illinois honey? Why, bless you, California is part of *us*.

EMMA is trying an experiment. When I was away from home she fed one colony bug-juice only, to see how they would winter. I don't know which colony it was, and I have my suspicions as to her knowing any thing more about it than I do.

AFTER MY BEES were put in the cellar, it set in immediately for a long rainy spell, turning cold; and when, Nov. 17, the mercury stood 7° above zero, with a steady wind, it was no little comfort to think my bees had gone into the cellar dry and warm.

B. TAYLOR, in *Review*, pokes fun at me for taking a rope to carry bees into the cellar. All right, friend Taylor; you can take the hardest way if you want to, but not I. "No, sir; I am not going to plow my ground with a forked stick when I can"—do better.

NAPHTHALINE has a new use for bee-keepers. Dr. Rose, in *Central Blatt*, says it is a success in introducing queens and uniting colonies. Simply put a little naphthaline in each hive over night, and the next day there will be no trouble uniting. It smells horribly enough to unite any thing.

"I NOTICE," says Doolittle in *A. B. J.*, "that the advocates of natural swarming are increasing, and others diminishing, as the years go by." I don't know, but I doubt, I doubt. At any rate, I think he will agree with me that the number is on the increase, of those who would like to prevent *all* swarming.

IT'S COMICAL to read how Hutchinson took such exceeding pains in hauling a load of bees Nov. 1. He put *two empty supers* on top of each hive so they wouldn't smother for want of room. Why, bless your heart, W. Z., I haul mine every fall earlier than that, and never think of giving them extra room or any ventilation except the regular entrance.

"BROTHER" AND "FRIEND." G. W. Demaree, in *Missouri Bee-Keeper*, says he has "waited and hoped long to see less of this thing in our bee-periodicals. The terms are too sacred to see them profaned to utter disgust." And then the editor very innocently commences his footnote, "Well, Brother D." Evidently, Brother Quigley is incorrigible.

"A DEEP CLOSED-END FRAME is cold and bad," says B. Taylor, in *Review*, "just because it cuts the brood-chamber into many small rooms having no convenient connection with each other." I suppose he keeps the inside doors of his house all open so as to make the house warmer. Still, he makes a good point in saying that outside clusters caught away from the main cluster are easily chilled.

A COLONY of bees—what is it? The answering of this question raised some feeling at a fair, where a premium to "best colony" was awarded to a three-frame affair. The Missouri Bee-keepers' Association decides that a "colony of bees" is "a regular-sized hive, full of combs, bees, and a queen." But what is a "regular-sized hive"? And is the hive a part of the colony? What is a colony of bees, anyhow?

NAPHTHALINE is so strongly urged by the *B. B. J.* as a sure preventive (not a cure) of foul brood that I wonder we have no report of any one trying it in this country. In an apiary where the disease prevails, put some naphthaline in a sound colony, and see whether it remains healthy. If it proves effectual, it will prove a great help in eradicating the disease. It has at least the merit of great cheapness and simplicity of application.

SALT has been recommended for some of the ills that bee-flesh is heir to, and some are very earnest in the recommendation. Now, I don't know that salt ever cured a single sick bee; but I do know that bees seem quite eager for it, and that's some proof they need it, and I don't think any one has ever suggested that harm came from its use. So it seems a good plan to have a place specially prepared to salt the bees, and thus save them the trouble of frequenting filthy places to obtain it.

A CORRESPONDENT wants me to tell my experience with Punic bees. I think I have told all there is to tell. I got two virgin Punic queens by mail from England. The workers accompanying them were decidedly blacker than any black bees I had ever seen. One of them was fertilized, and her workers were nearly all three-banded. It was so late in the season that I couldn't judge of their working qualities; and, the queen being lost, they now have a queen whose workers are only one-fourth Punic, so I can't judge much next year.

J. H. LARABEE is reported in *Review* as saying that "he shall experiment no more with planting for honey, and he should be very glad

if bee-keepers would write and tell him what experiments they would like tried." Look here, friend L., try the experiment of getting out of your shell and letting us know what you are doing. We have lots of confidence in you, and are interested in your successes and your failures. Those government chaps will be just as well satisfied with your annual report if it has all been given beforehand in the bee-journals.

POLLEN AND LARVAL BEES.

BROOD FOOD; WHAT IS IT?

A correspondent writes, "Is that true, which scientists claim, that the young bee in the larval state does not eat pollen, but that its food consists of a purely animal secretion?"

Well, in the light looked at it by our correspondent I do not think it true, and I can not help thinking that they who thus argue are making a mistake; for, from the many careful observations regarding the food of larval bees, I have been led to believe that such food was composed of about two parts honey or saccharine matter, four parts pollen, or flour, when such is used in early spring as a substitute, and one part water, the whole being taken into the stomach of the bee and formed into chyme, after which it was given to the larval bees in the creamlike form as we see it in the cells.

Right here I wish to digress a little and give some further observations as bearing on the eating of pollen by the old bees. Sometimes old bees eat pollen for the purpose of bridging over a time of scarcity, and at others they do not, the same being conditioned on whether there is brood in the hive or not. One year my bees had hardly a cell of honey in their hives during the fore part of June, at which time of year we have a scarcity of honey, but always plenty of pollen. By way of experiment I fed a part of my colonies, and let the rest go without feeding, to see if the bees in those hives having scarcely a cell of honey in them, but plenty of brood in all stages, would live if provided with pollen, which was given in abundance. As the weather at that time was so unfavorable that the bees did not fly for several days, I anxiously watched them to see what they would do as soon as the few cells of honey were gone. The first thing noted was, that, as soon as all the honey was gone, the larvæ were scrimped of food, and the eggs were removed from the cells (probably eaten by the bees, as I have seen bees eat eggs dropped by the queen), while, during the next day, there was a general eating of the larvæ. The next day after, the sealed drone brood was taken from the cells and sucked dry, while the harder parts were scattered about the entrance and bottom-board of the hive. At this time I noticed the bees putting their tongues together as they do when young bees take a load of nectar from the field-bees in time of plenty, which thing was continued till nearly all of the pollen was used up in the hive, which lasted for several days, when it came good weather again so new supplies were gathered. Since then I have noticed the same thing several times under like circumstances, but always when there was brood in the hive. Remembering these facts I tried the same experiment in the fall when there was no brood in the hive, at two different times, but in each case I succeeded in starving the colonies with not a cell of pollen touched, so far as I could discover.

From these observations and experiments I have formed the opinion that old bees partake of pollen only in the form of chyme, and that this chyme is prepared only when there is or

has been brood lately in the hive. But, to return:

That the larval bee subsists wholly on this creamy food, or chyme, I think no one will deny; and if, from my personal observations, I am correct, the largest element in the food is pollen. As the larva absorbs this food, the grosser part of the pollen forms into the yellow streak seen in all larvæ when taken out of the comb, but most plainly in the drone larva, which streak is finally inclosed by the intestines of the newly hatched bee, and evacuated on its first flight. To show that I am not alone in the belief that pollen enters largely into the food of the larval bee, I wish to give the testimony of others who incline to a like belief. Gundelach says:

"The larva is immediately fed by the workers with a pellucid jelly prepared in the chyle-stomachs by the digestion of honey and pollen mixed with water."

Neighbour says:

"A portion of this pollen is taken at once by the 'nursing bees,' which are supposed to subject it to some change before offering it to the larvæ."

Kirby says:

"With this pollen, after it has undergone a conversion into a sort of whitish jelly by being received into the bee's stomach, where it is mixed with honey and regurgitated, the young brood, immediately upon their exclusion, and until their change into nymphs, are diligently fed by other bees, which anxiously attend them, and several times a day afford a fresh supply."

Gallup says:

"Every bee-keeper ought to know that bees do not feed pollen directly to their young; but it is elaborated in the stomach of the bees into chyme to feed the young on."

Quinby says:

"How this food is prepared is mere conjecture. The supposition is, that it is chiefly composed of pollen. This is strongly indicated by the quantity which accumulates in colonies that lose their queens and rear no brood."

Prof. Cook says:

"The food is composed of pollen and honey—certainly of pollen, for, as I have repeatedly proven, without pollen no brood will be reared." Again, "The function of bee-bread is to help furnish the brood with proper food. In fact, brood-rearing would be impossible without it."

A. I. Root says:

"It is supposed that this larval food is pollen and honey, partially digested by the 'nursing bees.' Bees of this age, or a little older, supply the royal jelly for the queen-cells, which is the same, I think, as the food given to the very small larva. Just before the larvæ of the worker bees and drones are sealed up, they are fed on a coarser and less perfectly digested mixture of honey and pollen."

In the above all agree that pollen enters largely into the food of the larval bee, and I think that it must be conclusive to the reader that this is right. Facts are what we want; and if any of our scientific brethren can give facts to overcome this testimony, we should be pleased to hear from them. G. M. DOOLITTLE.

Borodino, N. Y., Nov. 16.

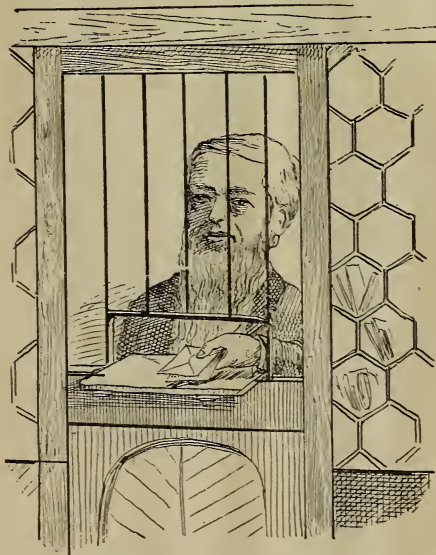
[We are a little surprised that you did not quote from Cheshire and Cowan. The former insists that royal jelly is a *secretion* from one of the glands, and not a product of the chyle-stomach. Mr. Cowan, as well as Prof. Cook, with a long array of good authority to sustain them, hold that this food is produced in the chyle-stomach, and that the worker larvæ are fed on this concentrated food for three days,

after which they are weaned and given a coarser food. For further particulars in regard to these views, see *Cheshire*, Vol. I., page 81, and *Cowan on the Honey-bee*, page 121. After carefully reading and weighing the arguments of both, we favor the view that royal jelly is the product of the chyle-stomach—that is, a mixture of honey, pollen, and water, digested in the stomach of young worker bees, and, by them after regurgitation, dispensed to the larvæ.]

RAMBLE NO. 48.

WITH DR. MASON AND E. E. HASTY.

From Medina I proposed to go to Michigan. In looking up the best way with E. R. Root he advised the Toledo route and a call upon Dr. A. B. Mason. The advice struck the Rambler as eminently agreeable, and a few hours afterward found me inspecting the streets of the lively city of Toledo. Aurburndale is a suburb of the city, and readily reached by street-car. This little town has long been known the country over as Wagonworks. This is a very common and homely name, and very suggestive as to how and why the place was founded, the wagon-business having grown to immense proportions, and having drawn much other business to its side. The inhabitants have become very refined and poetical. They could no longer endure the idea that a cart was the foundation of all their prosperity, and the name has therefore been changed to Aurburndale.



DR. MASON BEHIND THE BARS OF A HEXAGON POSTOFFICE.

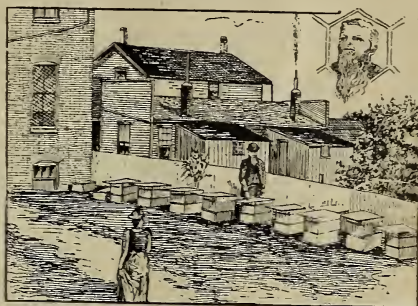
If an old resident is asked the name of the town he will unthinkingly commence with a loud coarse Wa—; but the sound warns him, and, giving his lips a poetical twist, he says in a subdued tone, "This is Aurburndale." It is evident that this place will soon be absorbed by the rapid growth of Toledo, and then Aurburndale too will have to go.

Dr. Mason is at present serving his country by regulating the Aurburndale postoffice at a salary almost any bee-keeper would be willing to receive. I found him, at the time of my call,

a close prisoner to his duties. I stepped into the office, and, putting my nose up to the delivery window, says I, "Is there any mail here for John Doe or Richard Roe?"

He gave a brief look at the nose, and said, "Come around, Mr. Rambler, and sit down."

As this was our first meeting it is an enigma to the Rambler to know how Dr. Mason so quickly recognized me. I spent a very pleasant afternoon in the postoffice. Dr. M. was busy a good share of the time, dispensing mail, knowledge, and jokes to his numerous callers. He



DR. MASON'S APIARY.

seemed to be on the best of terms with every man, woman, and child, and especially the girls, and they all went away well pleased and smiling, and some smiled till they crossed the street, whether they received any mail or not. Dr. M. had quite a trade in miscellaneous letters, or to those who had no box. He would carefully look over the pile under the letter called for every time.

"Why," Dr. M., said I, "that's the eleventh time you have looked that pile over, and you knew that man had no letter. Why didn't you tell him so, and let him go about his business?"

"But," said he, "that would not satisfy the man. He sees me shuffle the letters over, and goes away perfectly satisfied; whereas if I had merely said 'No letter,' the fellow would have gone off muttering hard things against the government. The honor of this great nation has to be defended. Her flag must not trail in the dust: so I make it my duty to send everybody away feeling happy toward Uncle Sam."

Any person would readily observe that a bee-keeper was running this office, for the boxes are all put in hexagonally, as will be seen. The advantage, as explained by the doctor, is, that the letters can not get down flat, and are always in sight, and easily grasped and delivered; so "hexagony" is not only a fine thing for an apiary but also for the government.

At the time of my call, Dr. Mason was confined to his duties with unusual severity. His son, who is deputy, was east on a vacation trip; and from early morn until late at night the doctor was at his post, relieved occasionally by his wife and daughter, and a lunch-basket, of which we all partook more or less. Dr. M. has a very pleasant home in the suburbs of Wa—Aurburndale, and in the rear we found his apiary, the lawn surrounding them being very smooth and pretty. Dr. M. has reduced his number of colonies, and is not making honey production so much of a specialty as formerly.

In the early morning, after witnessing the doctor milk his Jersey cow, the camera was brought to bear on the apiary and Dr. M., and I give you the result. He appears to be perfectly at home in the midst of his portico L. hives. That morning he said, "You must go out and

see Mr. Hasty, who lives only a few miles away."

The doctor's postoffice duties prevented his taking the outing; but a way was provided by Miss Mason becoming the driver. Besides her various other accomplishments, Miss M. is an expert horse-driver, and we were soon getting over the road at a lively gait behind the Mason horse in the Mason carriage, and beside the Mason girl. The half-dozen miles were covered in what seemed a very short time.

Mr. Hasty was at home and in his apiary, and I found him picking strawberries. His apiary differed somewhat from other apiaries I had visited. The hives were shaded with clumps of asparagus. It makes an excellent shade, but requires much trimming, and gives the apiary a dressy appearance. The ground is kept free from weeds, and the hives seemed, from exter-

Our photo shows about half of the apiary with Bro. Hasty arranging a ladder (Hasty's, not Jacob's), from which the Rambler tried to get a photo. Our photo gives you an idea, however, of the beauties of the place. Around the apiary and the house are many noble shade-trees, and, taking it all together, it is a desirable place in which to live. Mr. H. lives in single blessedness with an aged mother and his brethren. He conducts his apiary, not for the dollars supremely, but as a means of serving God, believing, with Paul, that all things should be done with that end in view. Mr. H. has been an active Christian worker, maintaining a Sunday-school and other services in his neighborhood for a long time; but, his health failing, the services are at present not held. I felt that a longer conversation would have been both pleasant and profitable; but the waning



APIARY OF E. E. HASTY, RICHARDS, OHIO.

nal appearances, to be of various patterns, but I believe they all take the L. frame. At one side I noticed several holes with covers. In these Mr. H. suspends swarms that have issued and clustered. If another swarm issues and is about to cluster upon No. 1, No. 1 is promptly cut down and put into the hole in the ground, the cover put down, and it remains in darkness until the apiarist finds time to attend to it. Several of these holes are provided, showing that much natural swarming is indulged in in the Hasty apiary. The apiary shows that experiments are often tried, and I have no doubt that bee-keepers would be much instructed if Mr. H. would give the results to the public. The camera was brought to bear upon the apiary from various points, but a good photo of the whole hundred hives did not materialize.

hours demanded haste, and we were soon again in Toledo.

After leaving all of these good friends, reflections reminded me that in Dr. Mason we have a man who has done much for the bee-keeping fraternity, not only in Ohio, but in the whole country. His greatest field of usefulness is, perhaps, now before him as our leader at the World's Fair; and that there is so much unanimity over his selection, again rejoices the heart of the

RAMBLER.

[Not all of our readers have seen Dr. Mason, and consequently can not know how natural the picture of him is, even if "behind the bars." Rambler and our artist seem to have a knack of getting things and persons pretty nearly as they are. The picture of Mr. Hasty's apiary is

made directly from the Hawkeye photo. We had supposed, until recently, that our friend kept only a few colonies—only just enough for experimental purposes; but we are agreeably pleased to learn that he has 100. Mr. Hasty is a remarkably bright writer. He is a keen observer in the apiary, and knows pretty well whereof he speaks. We wish he might let his apicultural light shine a little more.]

MOVING BEES HOME.

HOW MUCH VENTILATION IS NEEDED.

October 10th I began to move my bees home again. We moved three loads with eighteen hives to the load. In the first place I was very busy with other work, and got started too late in the day. It was nearly sundown when we arrived at the lake where the bees were. As all of the bees were in large Dadant hives that I intended to move that night, and as the night was cool, and all of the Dadant hives have a little ventilation in the roof to allow the moisture to escape, I took no ventilators along. I was satisfied that there was enough ventilation in the roof. The surplus cases were all left in their places. Some of the cases had honey in, and others did not. As we came right by the scales, we weighed our loads. The first load weighed, gross, 3650; wagon, 1410; net, 2240 lbs. Second load, 3490; wagon, 1280; net, 2210. Third load, 3495; wagon, 1300; net, 2195. We had our wagons loaded, and got started away from the lake about 8 P. M. We reached home at about 10:30, and found a nice hot supper ready for us. After eating we had four miles further to go, as I wanted, this lot at the Ballinger apiary. Some of these hives leaked bees. I find that, if bees get out of the hives at night, and the hives are moved, some bees are very likely to get on to any one handling them. Then they begin to crawl and sing; and there is nothing that will make a man nervous so quickly as to hear a bee or two singing somewhere on his clothing, especially if they can get under his clothing. I take particular pains to see that my help are properly dressed for the occasion. First, each of them needs a pair of old cotton socks with the toe of the sock cut off so as to allow the four fingers to slip through. A hole is cut into the side of the foot of the sock for the thumb, so that the heel of the sock will come over the back of the wrist. The leg of the sock is to be drawn over the sleeve of the coat. Now a pair of buckskin gloves can be drawn over the socks on the hands. This fixes the hands and sleeves. A cloth or a large handkerchief is folded and wrapped around the neck to keep the bees away from the neck, and from getting under the veil. The shirt-collar should be turned up before putting the cloth around the neck. The opening in the shirt front should be so secured that no bee can get through. The opening in the pants legs should be put inside of the boots, or otherwise secured. A man so dressed will handle the hives, no matter how badly they leak, with impunity.

After loading, take the horse-blankets and spread them over the front of the front hives. If it is a dark night, a lantern should be hung under each wagon. I have tried it. Though we had nice moonlight nights this fall, we unloaded our hives and got back home at about 4 A. M.

Wednesday night, Oct. 14th, we made our second trip. This trip we made to the Hamilton yard, which is about three and a half miles east of where I live; and as we did not go by the scales I did not weigh them. Part of these hives were eight-frame Simplicity, two stories

high, and had telescope roofs on them. sent a couple of men down early in the day to nail them up and have the bees all ready by the time we would get there with the wagons. Through a misunderstanding they took no ventilators; and when I got there about 30 Simplicity hives were nailed up without any ventilation whatever, except what little could get through the cracks at the entrance and at the roof. These were all strong hives. Now, what was I to do—open all of these hives and go home with an empty wagon and another only partly loaded, or run the risk of smothering a lot of bees? Another thing, my teams had all the work they ought to do outside of hauling bees all night. I immediately made up my mind to risk it as the night was frosty. I drove the lead team myself, and, to save a long drive, I went over a road that I had not been over for some time. In one place I got off the road about a quarter of a mile, and had to turn around and hunt up the right one. We got these bees off the wagon, and got home at about 2:30 A. M. Closing up these bees without any ventilation did not hurt any of them a particle, and we hauled them over eight miles on a straw-rack with no springs under them.

My conclusion is this: If bees are kept cool they need but very little air, though they are closed up tight and thumped around with impunity. It is the heat that kills them, and not vitiated air. As we moved 53 hives to the Hamilton yard I had only 20 hives left at the upper yard at the lake, and a lot of supplies, so that Friday night, the 16th, I took only two wagons, and took the bees and supplies to my home yard. We got home this time by 9:30. This left 63 hives at the lower yard to come to the home apiary, which was about a mile and a half lower down the lake. As I believe I have found out as good a way as there is to load bees on a wagon, I will describe it.

The side rails of the rack are 3 inches high. Across these, four cross-pieces are laid; on top of these, a floor of inch stuff is laid, and slightly nailed to prevent slipping out of place. The hives are set on this floor, with the entrance of the hive toward the outside of the wagon, and the back of the hive to the center of the wagon, and to the back of another hive with its entrance on the other side of the wagon. A rope is fastened on one side of a wagon, and brought around the back end of the wagon, and fastened loosely on the other side. Then it is raised into place near the top of the two back hives; then with a stout stick I twist the rope tight and tie the end of the stick to the rope. Now place a six-inch fence-board, 16 feet long, on the alighting-boards, on each side of the wagon; now pass a rope over the side rails of the rack under the floor the hives sit on; fasten each end of the rope to one of these fence-boards, near the center of the board, so that the rope will pull down between two hives. Now with another stick twist this rope up tight, and tie the end of your stick, and your load is secure.

Saturday night, the 17th, we made our last trip for the 63 hives. As one of my horses had got hurt I had to put my buggy horse into one of the teams; and as we had on a little too much for him, and a new driver, he got stuck with his load. I promptly unhitched him and put on one of the heavy teams to pull his load up. The first load had on 26 hives, a driver, and a man to help see that nothing lost off the load, as there were several empty cases and a water-barrel. It weighed, gross, with both men on, 4150 lbs. As we had had a little rain during the day, this wagon weighed 1495. With the drivers off, this load weighed 3850 lbs., or a net of 2355. The next load had on 3680 lbs., and

the wagon weighed 1490 lbs., or a net of 2190. The third load weighed 3750, but I did not get the weight of the wagon. We got home about 11 P. M., and got our loads off by 12:30. All of them, except one or two hives that had been disturbed by some unknown parties, got home in good order with more than enough honey to winter on, and carry those through the winter that had not been to the lake. A. N. DRAPER.
Upper Alton, Ill., Nov. 18.

[Well, now, friend Draper, your loads are not so very much lighter than our last load of Shane bees, that you criticised as being too heavy for two horses; nay, rather, they are heavier. After all, I do not suppose that you overloaded your horses. It is evident that you are in the habit of looking ahead, as well as we folks at Medina.

Your experiments go to show pretty well that bees need very little ventilation when hauling, *provided* it is cool enough. This explains why it was not necessary for us to put on the screen tops, and why our 57 hives of bees, with only entrance-screens, were hauled home at night, without a bee smothering. In hauling bees home for the winter, rather than take off the covers and put on the wire-cloth screen tops, it is cheaper to select a cool day (or else a moonlight night), when all that is necessary at most is to put on only entrance-screens.]

COVERING PACKAGES OF COMB HONEY.

J. T. RIPLEY, OF THE WESTERN CLASSIFICATION COMMITTEE, INTERVIEWED BY A BEE-KEEPER—ANOTHER CONCESSION.

Having had quite a good deal of experience in shipping comb honey, I have been much interested in the discussion in GLEANINGS in regard to crating or boxing it for shipment. I went up to No. 733 Rookery Building to interview Mr. J. T. Ripley, Chairman of the Western Classification Committee, on the subject. I represented that bee-keepers in general considered this a vital matter, this having a small amount of glass in a comb-honey crate so freight-handlers can see that comb honey is in the package. I explained that, as comb honey is always shipped at owner's risk of breakage and leakage (O. R. B. or L.), we as bee-keepers preferred to run the risk of the glass being broken rather than risk the contents of the package when said contents are unseen by the freight-men. Mr. Ripley explained that the reason they ruled that glass must be covered, was, that the companies are nearly always held responsible when any outside glass in a package is broken, but not for the breakage of the contents of the box or crate. However, Mr. Ripley said he wished to treat the honey-producers in as liberal a manner as possible, and he would make a ruling that a small piece of glass might be visible in packages of comb honey; but he would have to insist on the (O. R. B. or L.) clause in the transportation contract.

I think some of the readers of GLEANINGS have thought Mr. Ripley's jurisdiction extended east of Chicago as well as west. The fact is, the Official Class Committee—C. E. Gill, chairman—143 Liberty St., New York, has control of rulings and classifications east of Chicago, and Mr. Ripley's committee only west; so, as I understand the decision, "comb honey in boxes crated with a small portion of glass exposed" will be received.

The writer thanked Mr. Ripley in behalf of the bee-keepers for his kindness, and for the

courtesy shown them in these negotiations, and extended a hearty invitation to him to attend the meeting of the N. W. B. K. Association in Chicago, Nov. 19 and 20.

Chicago, Ill., Nov. 5. HERMAN F. MOORE.

[Yes, we have been well pleased in the way we have been treated by Mr. Ripley. In the back numbers of the current volume it will be seen that he has endeavored to be fair and liberal with bee-keepers. We are very glad that you invited him to attend the meeting of the Northwestern Association, as we are sure he will be welcomed by its members at their next convention. It is a big thing to be on the right side of railroad officials; and it is not a pleasant thing to be on t'other side of 'em. Hello! here is something more on the same subject. It must be *two* have had their fingers in the pie. If so we are under obligations to *both* the parties.]

COMB HONEY; HOW TO CRATE IT.

A RECENT RULING BY WHICH BEE-KEEPERS ARE FAVORED AGAIN BY MR. RIPLEY.

Friend Root:—You will see from the inclosed correspondence that I have secured from the Western Classification Committee a ruling allowing comb honey in glassed cases to be shipped in crates. I called on J. H. Ripley three times in relation to the matter, and finally, at his request, laid the facts in the case before the committee in writing, having previously sent Mr. R. one of my crates filled ready for shipment. The ruling takes immediate effect. The crate I use is made, with the exception of ends, almost entirely of lath, which work up without waste in crating small single-tier cases. A crate that will hold a hundred pounds costs only about 15 cents, at the outside. If you think it worth while, you are at liberty to make use of the correspondence for publication.

BYRON WALKER.

Glen Haven, Wis., Nov. 10.

We take pleasure in reproducing the correspondence.

Mr. J. H. Ripley:—Agreeable to request I write you in relation to a recent ruling of the committee of which you are chairman, requiring comb honey in cases with glass fronts to be boxed where received for shipment. I have delivered to you one of my small crates of honey as prepared for shipment, and wish to call your attention to several reasons, suggested by my experience, why such crates are preferable to boxes for the safe carriage of these goods.

1. Comb honey in glassed cases *always* has the glassed side or sides parallel with the comb surfaces.

2. The attachment of the combs to the small sections that fill the case are *always* of such a nature that a comparatively slight jar in a direction at right angles to these comb surfaces will cause the combs to break loose from these attachments. Hence the necessity of these goods being at all times so handled as to forbid such jarring.

3. The only way of readily showing the direction of the combs in a package of honey offered for shipment is to make use of a strip of glass. Now, while it is admitted that it is desirable to have the glass protected, I venture to say that, even where the glass is fully exposed in such packages, not one glass is broken where a hundred combs are broken in handling as freight. It is a matter of common remark among honey-shippers, that nearly all the cases of breakage of combs occur where no glass is used.

4. The protection of the glass (see the sample crate) can be practically secured, and still the direction of the combs (which, I repeat, is always parallel with the glass) can be seen at a glance. But it is suggested that a caution-mark on the top of boxed packages is all that is required to secure the right handling of these goods; but there is abundant proof that this is not the case. Inability to obtain suitable boxes in the country often leads to the use of old soap and other store boxes, upon which it is difficult to make a caution-mark conspicuous; and such packages are very apt to be roughly handled before the nature of the contents is noticed. Again, it is a matter of common occurrence, as every shipper knows, for truckmen, in spite of the caution, "This Side Up," to turn boxes down on the side, trundle them across rough places (for instance, the bridge between the platform and car), and carelessly dump them. If any attention in such cases is paid to the caution-mark, the box is only *left* not *kept* right side up. Boxes of honey treated in this way are, of necessity, well nigh ruined.

5. In order to secure the safe carriage of these goods it is absolutely necessary, for the reason already given (the second one), that the packages be *loaded* on the cars so that the combs run parallel with the track; but it is evident that this can not be readily done, as the combs are as often parallel with the ends as sides of cases, unless a glass is visible, when a glance shows how they should be loaded.

Now, then, if I am correct in making the above statements (and, indeed, it is not with me simply a matter of opinion, but rather of knowledge gained by seventeen years of costly experience in shipping these goods), I submit whether the rule you have adopted in this case is either a just or expedient one. While you require the shipper to send his goods at O. R., you at the same time compel him to pack them in such packages as will well nigh insure their destruction. If this has not been the result in many instances already, it is either a matter of pure luck or else because of the negligence of railway employees in enforcing the rule in question.

These being the facts in the case, I can not believe that, when your committee fully understands the same, the rule will be allowed to stand, even for an hour.

As this is the season of the year when the chief part of the honey crop is marketed, an immediate change would be a great favor to the bee-keepers of the West, especially as the risk of shipping, where refrigerators are not available, is more than doubled with freezing weather.

Allow me to suggest that, if the rule were amended so as to forbid the shipment of honey in cases not glassed (except in car lots), and requiring the glassed cases to be crated so as to protect yet not entirely conceal the glass and packages to be provided with suitable caution-marks, the change ought to be satisfactory to all concerned, and would result in saving railroad companies not a little annoyance and expense, especially if their employees, having charge of such goods, were to understand that they would be held responsible for right handling when offered for shipment in proper shape.

If your committee should see fit to decide that these goods should not be received for shipment, unless packed in straw or other suitable material, shippers would have no cause for complaint. If the change herein suggested is adopted, I will hereafter make use of very conspicuous caution-labels reading about as follows:

"CAUTION!

"This package contains comb honey, and

must be kept *constantly this side up* without jolting, or the contents will be ruined. Load with *glassed side* toward side of cars or the goods will be smashed."

I do not claim it is impossible to improve the crate submitted for your inspection. Of course, the thickness and width of the slats protecting the glass correspond with the size of the package and width of glass used, respectively. We have shipped honey in these crates from Michigan to the seaboard, and north as far as St. Paul, and have yet to hear of the first instance of loss in the past four years.

BYRON WALKER.

Glen Haven, Wis., Nov. 10.

Mr. Ripley replies:

THE WESTERN CLASSIFICATION COMMITTEE.

"The Rookery," Room 733.

J. T. RIPLEY, Chairman.

HONEY IN BOXES.

Chicago, Ill., Nov. 3.

Mr. Walker:—Answering your favor of the 2d inst., since inspecting your sample package I have decided to allow first class upon the same, as will appear from a copy of rulings inclosed, which I presume will be satisfactory.

J. T. RIPLEY.

WHITE CHILEAN CLOVER.

IS IT THE SAME THING AS OUR MELILOTUS ALBA, OR SWEET CLOVER?

A correspondent sends us the following clipping from the Greensborough, Ala., News:

Twenty-five years or more ago a pretty little emigrant came from South America to Alabama. The little emigrant first found standing-room on one of the plantations of Hale County, just above the county-seat, Greensborough. Not much attention was paid the little stranger, for the pretty one had found, in truth, merely standing-ground—not a spreading-place—for it came from a lime-soil country, and now it found itself in a sandy region, and wasn't overmuch pleased with the change. The little emigrant is called the melilotus, or white Chilean clover. It is by far the best forage plant known to the farming world. It is, as its name indicates, one of the clover family, but one that has certainly outgrown all its kith and kin; for in the lime land that it loves it has been known to reach the height of ten or twelve feet. Its fibers, even when it reaches this great height, are always most nourishing to stock, are never too rough or coarse to be eaten readily and with great enjoyment by the pasturing herds. Often, when corn is scarce and high-priced, this supplemental crop feeds the workhorse and keeps up, as no other pasture or hay will, the full strength of the animals. For pasture for milch it is invaluable, producing a great flow of milk, and giving to the products of the dairy, so say some planters, a most pleasant taste, a sort of reproduction of the plant's perfume. The perfume of the growth is delicious, an odor of vanilla. The dry hot winds of summer that blow over our Alabama prairies carry the delicious odors far afield, and even more delightful is the perfume when beaten from the snowy blooms by one of our swift-falling, pelting summer rains. The pasture taste for the plant is an acquired taste with stock, but the hay is eaten greedily from the first mouthful. The yield of hay to the acre is immense, for the plant will bear several cuttings a season. The most marvelous work of the plant is its renewal of worn lime lands. It is itself fertilization entire for the barest of "baldhead" that will crop out on otherwise rich lime lands. Right up from these spots, white as dry bones, the plant springs to its fullest height. Its roots are as long and as strong as its stems, and have soon netted the bald earth beneath with a thousand full roots and rootlets. The growth being biennial, these roots die every two years, and these leave in the ground an amount of dying vegetable matter. Besides this, the plant full-leaved, vigorous, giving shade to the earth abundantly, has

drawn into the lime lands just the air fertilization that they need. Many of our planters, who only within the last few years have learned the truth of this growth, plant every year, or every two years, acres of this clover. They leave the acres to its work of fertilization for two years, perhaps four years, and their corn lands have in that time become wholly renovated. But when I say leave the acres to its work of fertilization, I ought to say that in all that time he pastures herds and stock thereon. In the second year's growth he even gives to the acres several close cuttings for hay, leaving only a long enough growing season in late summer for the plant to sow its own seed. If he chooses he has also the most magnificent pasturage possible for bees, for no honey made the world over is purer or more delicately flavored than is the honey made from these white flowers. Since the value of the plant is beginning, merely beginning, to be known to the agricultural world, there has sprung up in this county where it grows so luxuriantly a new industry—seed gathering. Demands for the seed come in from all parts of the Union. Some of the leading seed-men of Texas seem to be taking an especially great interest in the industry, recognizing, as one must, the great value of the plant to the agricultural world.

ELI SHEPPERD.

[Now the question is, Is the clover described above the same thing as our well-known sweet clover? From the fact that the writer calls it "melilotus," and says it is a white clover, it would seem that it must be; for our common sweet clover—that is, the white variety—is *Melilotus alba*. And, again, he speaks of the fact that the plant performs the office of renovating and making fertile the lime lands of Alabama, and this just exactly agrees with the way in which sweet clover grows on the alkaline lands around Salt Lake City, Utah; and, finally, it fits sterile ground for farming purposes. The description of the honey obtained from it also agrees. We should be glad to hear something more in regard to this matter from our correspondents in the Southern States.

THE NORTH AMERICAN AT ALBANY.

WHAT IT IS TO BE, AND WHO WILL BE PRESENT.

By Ernest R. Root.

Never, since we can remember, have the prospects been brighter for a grand representative international convention than for the one which is to be held at Albany Dec. 8-11. Representative—that is just what this meeting is to be, emphatically. Delegates from affiliated societies from all parts of the United States and Canada have signified their intention of being present; and, besides this, we believe there was never a convention where there was a promise of the attendance of so many distinguished, practical, and brilliant bee-keepers. The one great difficulty in securing a good attendance has been a failure to get reduced railroad rates. But this year the committee, G. H. Knickerbocker, succeeded admirably, so that nearly every one who expects to be present will be able to secure one and a third fare, round trip. For particulars, see elsewhere. Whether it is the reduced rates or whether it is due to the earnest solicitation on the part of the officers, we can not say; but up to the present date we are authorized to announce that the following bee-keepers will be present. Among them are some of the most extensive and distinguished apiarists in the world:

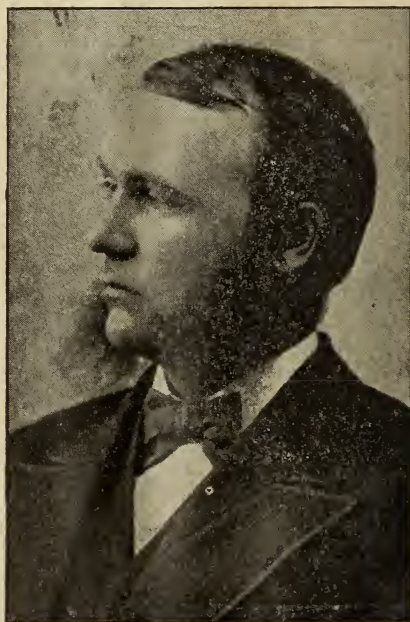
Capt. J. E. Hetherington, of New York; Frank Benton, of Washington, D. C.; Julius Hoffman, of New York; J. E. Crane, of Vermont; Pres. Elwood, of New York; Sec. C. P. Dadant, of Illinois; Vice-President Secor, of Iowa; Dr. C. C. Miller, of Illinois; Dr. A. B.

Mason, of Ohio; W. F. Clarke, of Canada; G. M. Doolittle, of New York; A. E. Manum, of Vermont; Hon. J. M. Hambaugh, of Illinois; W. Z. Hutchinson, of Michigan; S. Cornell, of Canada; R. F. Holtermann, of Canada; Geo. H. Knickerbocker, of New York; C. H. Greeley, of Maine; Jonathan Pike, of Maine; J. H. M. Cook, of New York City; W. H. Norton, of Maine; V. V. Blackmer, of Vermont; E. R. Root, of Ohio; Geo. H. Ashby, of New York; J. Vandervort, of Pennsylvania; E. L. Pratt, of Massachusetts; A. N. Draper, of Illinois; A. A. Byard, of New Hampshire; H. Reynolds, New Hampshire; Frank and Chester Olmstead, of New York.

This is by no means the total number that will be present. Many others hope to be present, and doubtless will be, to say nothing of the large local attendance that will be sure to come to see and hear the "big guns." The bee-keeper who can attend, but fails to do so, will miss the opportunity of a lifetime to see together so many eminent men of our chosen pursuit.

The president and secretary—well, you know who they are. Mr. Elwood has some 1300 or 1400 colonies distributed in ten or twelve apiaries, all on closed-end Quinby frames. He is a practical and successful bee-keeper—a scholarly gentleman of a quiet and dignified reserve, rather modest and retiring in his way. He makes a good presiding officer, however, and has a happy faculty of turning all discussions into a practical vein, and holding them there.

The secretary, Mr. Dadant, is also another extensive bee-keeper, as well as a representative of the largest foundation establishment in the world. The Dadants own some 400 or 500



PRESIDENT ELWOOD.

colonies, distributed in four or five out-apiaries. The secretary is a hustler and thorough-going business man and practical bee-keeper.

York State, outside of California, is the largest honey State in the Union, and its capital is right in the midst of the honey-producers.

Albany is rather pleasantly situated, and easy of access. The convention will be held in Agricultural Hall, in a large and commodious room. Suspended from the ceiling above is the mammoth skeleton of a whale, and on all sides are the implements of agriculture.

The headquarters will be at the Globe Hotel, a two-dollar temperance house. Mr. Thomas



SECRETARY DADANT.

Pierce, president of the Albany County Beekeepers' Association, will be at the hotel to give all the information that may be desired in reference to cheaper or other accommodations for bee-keepers who attend. That you may be



THOMAS PIERCE.

able to recognize him we would remark that he is over six feet tall, perhaps sixty years old, and genial and affable. We submit his picture herewith. When you see this man just say, "How do you do, Mr. Pierce?" He will give you all the information you may desire.

Come to the convention if you possibly can, and bring along the good woman who has toiled along with you in life's journey. If you haven't any "better half," bring along the one that *is to be*. We always have better conventions when there is a large attendance of ladies.

SOME WISE AND HELPFUL WORDS IN REGARD TO THE FAMILY PHYSICIAN.

NATURE AND ART.

Mr. Root:—I was glad to see you stand by the family physician in your footnotes to the letter of "Droit et Avant," in Nov. 1st journal, though the caution of the latter against the use

of sleep-producing drugs is, I dare say, well timed.

I have heard the "medicos" maligned by people—I make no reference here to your correspondent above—who, after all, had they reflected a little, would surely have found that, in the past, they had reason to be exceedingly thankful that the medical profession existed, and that some one skilled in the healing art had been at hand with the advice which was invaluable when the life of a wife or child or other dear one hung in the balance. How little thought was there then of belittling the profession of medicine! It reminds me of those who set the pleadings of the Great Physician at naught till something serious threatens their existence, and then they are willing, *for the time being*, to lend an ear to him.

I know that perfection has not been attained in this line: that the doctors *seem* to be to blame for not knowing some things we wish they did know, and that there is, perhaps, something in the remark, that "the reason why medicine has advanced so slowly is because physicians have studied the writings of their predecessors instead of nature." This kind of misfortune is not confined to that profession; but the disposition giving rise to it seems to belong to nature—human nature. Take, for example, that other very prominent line of cure, "the cure of the soul." See how, by tenaciously clinging to the writings of their denominational predecessors, men, even men of great learning and ability, fail to break away from the old sectarian bonds assumed in childhood, to work after the more consistent methods of simple primitive Christianity. I speak as a simple Christian, disciple of the Lord Jesus, or such other *Scriptural* name as you care to apply. Yet, what sensible man will say that the man who has for years made a specialty of the study of disease and the means of cure is not to be trusted more than one's own gradually collected and possibly very meager ideas of nature's laws for the maintenance of health or cure of sickness? Or, on the other hand, what wise man will say that he who has studied for the pastorate, in whatever denomination it may be, will fail to be as efficient a comforter and help, and applier of the consolations of Scripture, in the hour of bereavement or distress, as the ordinary layman?

To take another phase of the question: Nature, like appetite, is a very uncertain guide under the circumstances in which civilized—yes, and even uncivilized—human beings live; as witness the cruelties and superstitious excesses of the latter, their peculiar "medicine-men," etc.; and of the former, their departure from nature, and by following a higher law, how much it has elevated and advanced them in the scale of humanity!

I have a little girl just recovering from typhoid fever. Now, what did nature do for her? Insisted on sleep, sleep, sleep, all the time. So far, good. But what of nourishment to supply the wasting system? No appetite, no desire for food of any kind, and exhaustion going on apace, till liquid nourishment had to be forced upon her in spite of the little one's strongest protests and evasions, in order that nature's sleep might be prevented from verging into the sleep of death. Again, after the fever had abated and recovery commenced, nature called for food as eagerly as she formerly protested against it, when, to gratify this natural appetite with a morsel of solid food would almost certainly have resulted in death from puncture or hemorrhage of the bowels.

Suppose I am afflicted with eczema, or some such skin disease; what does nature say about it? Absolutely nothing, further than that you can see she has been sinned against some way

and some time, perhaps away back in the days of my ancestors; but as to suggesting a cure, she is absolutely silent.

To my mind, we live, and are intended to live, by a happy combination of nature and art. It is the glory of manhood and of intellect to go into the domain of Nature, and make her bounteous storehouse tributary to his wants and wishes, in order that the race may be elevated to the highest possible point of attainment in God-likeness of stature. Our eyes must be ever toward our Father in heaven. Division of labor is called for as a consequence, and thus arise such occupations as that of the forester and the gardener, from whose skill, where the forest had stood in its uncouth grandeur, there now stands the beautiful park with its well-appointed walks, its flower-beds and tastefully arranged shady trees and evergreens; the beautiful lawn in front of the mansion, with the garden and orchard close by, etc. So the physician, the farmer, the merchant, and others of occupation innumerable, among whom, and last, but not least, the keeper of bees, and he who supplies him with hives, sections, and frames.

Let us never decry any honorable occupation, nor put the faults of individuals as black marks against a peculiar calling. When we defame our fellow-men we besmirch ourselves; and there is something that lies under the old proverb, "Give a dog a bad name and hang him," which suggests that, to speak evil of our fellows, we exert upon them a hurtful influence, though it may be indirectly. R. W. McDONNELL.

Galt, Ont., Can., Nov. 13.

[Thank you, good friend M. A few days ago, while spending an evening with Prof. Cook and his good wife, the latter gave me an additional fact in regard to the bromide of potassium. A lady at an evening party was asked to take another cup of excellent coffee. She declined, saying that, although she would like it, it would keep her awake at night. After that she said it was so exceedingly good she would take another cup, after all, for she could get to sleep by taking *bromide*. Now, if that is one of the uses of bromide of potassium, a caution is surely needed. A drug that will assist us to evade the consequences of letting appetite induce us to take a hurtful amount of stimulant would be no blessing to mankind.]

THE FALLACY THAT BEES REASON.

THE CONVENIENCE OF THE ALLEY TRAP DURING SWARMING.

On page 888 of GLEANINGS we read a very interesting article by C. C. Miller. It is his quotation from Mr. M. L. Holbrook, M. D., that particularly struck me as something peculiarly interesting by reason of the fact that a doctor would advocate the idea that bees reason. Why! he must be a very devoted follower, even to the furthest limits of the Darwinian theory, even to insects. Perhaps if we should give the doctor a little encouragement he might even go further and try to make us ignorant people believe that clams use reason. What are you laughing at? When they are hungry, don't they know it, and absorb more nourishment? and when you put them in prepared salt water, don't they open their shells and live in peace? Who dares say *this* is not reason?

Mr. Darwin, if I am right, found only very slight traces of reason in the ape and dog; but he never went any lower in the scale of animal life. But here we have a gentleman whose balance-wheel has got a start, and it has carried him out of sight. Such things sound novel;

and the human mind naturally grasps at novelties until they wear it so hard it won't hold water any longer.

Perhaps our friend Mr. Holbrook would want us to believe that bees use reason when they build their combs. We shall see how his theory is now. Man, of all creation, is endowed with reason in its purest sense, and I am inclined to think that man is the only creature who possesses that article; and man himself can not make and cap a honey-comb—no, not with all the light of the experience of ages, and all their reasoning power to-day. In fact, I have read of an offer of one thousand dollars to prove the fact that any one makes comb honey.

On first thought one is led to believe that bees do reason when we have seen them do something out of the ordinary, as they often do. One might say with propriety, following Mr. Holbrook's idea, that plants have reason. You put a board on the sprouting root of a plant, then see it make a turn and reach the light. Now, that plant reasons thus: "This plank is right on my head, and it looks as though my jig were up; but I'll try to follow this plank across the grain, and I'll reach the light sooner than if I follow lengthwise of the grain on the plank." How's that for reason? But do they have reason? I guess the answer most of us would give would be a laugh. The Creator endows the bees with—well, we call it instinct; but we can never call it reason.

I have noticed now and then something about the Alley queen and drone trap. My experience with it has been good. It is impossible for me to attend the bees in the day time; but when I go home late in the afternoon I can tell which ones have swarmed by their clinging to the cage part of the trap. I just change the location of the parent hive, and put the new hive in its place, release the queen and what workers are clustering on the cage. The result is, in a few days I have a rousing colony, where, if it were not for the queen-trap, I should run a big risk of losing the swarm. But as it is now, I am satisfied with them for my use.

Olean, N. Y., Nov. 20.

GEO. SHIBER.

THE DOVETAILED HIVE.

A BIT OF MY EXPERIENCE WITH THICK-TOP FRAMES.

Friend Root:—Will you give me space in your columns to give my views to friend Baird, of Florida? I see by his letter that he is in quite a maze as regards the proper kind of hive to use. Brave fellow for coming out and asking the questions he has in his letter! How I admire his pluck! I find that I, too, need considerable advice on some subjects; and having had some experience in selecting hives, I feel like giving my own experience and trying to give him my ideas and advice.

When I started in the bee-business I lived in Missouri, and my hives were the kind our grandfathers used; viz., tall, square box hives; and after two years of worry and work, my bees all died one winter, not having sufficient stores; and, strange to say, I never took one pound of honey from them. This was in 1885 and '86.

In 1887 I learned for the first time there were movable-frame hives, and my brother in Iowa sent me a small model of one; but being discouraged with my former attempts I allowed it to be destroyed. I have seen nothing like it since. In 1888 I came to Colorado, and for two years I worked by the month for a living. Then I got a place, and, finding bee-keeping profitable, I got some bees and started in the business. Having them in old-fashioned hives that

were too big and ungainly for any thing. I began to look around for a suitable hive; and, as I stated in GLEANINGS of Oct. 1, I ran across an eight-frame portico hive, sold by a Western manufacturer, and thought it all right when I got them; but the frames being very light and narrow it gives too much room between the top-bars, and I have as miserable a lot of combs in my hives now as you ever saw. All braced together as they are, I can hardly lift one without lifting all together. After getting these hives I found that Root's Dovetailed hives with thick top-bars were sold in my city—a fact I had not found out before I purchased. I went and examined them, and Thompson & Neill showed me the points of advantage in them, and cited me to some of my neighbors who were using them. I immediately went to examine them, and found all combs made as true and regular as if a division-tin had been between all the frames. There were no burr nor brace combs to be found in the hives; no queen-excluders had been used, and no brood was in the supers, either in the sections or extracting-super.

So now, friend Baird, I don't see why you should look any further for a hive when Root's Dovetailed hive has gained such a reputation as it has. For my part I have not heard one word of dissatisfaction in regard to it here in this country. I am going to use it in my Platte Valley apiary hereafter. My opinion is, that any one can use them, and not live in fear of any one hinting kindling-wood after a use of five or six years. And I have an opinion, also, that the best results are gained by putting nearly full sheets of foundation in both sections and brood-frames, and using the Keeney method of wiring.

Now, I may be a little enthusiastic over the question of bee culture; but I, too, have got far enough on in the business to know it has a lasting fascination for me. THEO. V. JESSUP.

Greeley, Col., Nov. 2.

[The above may sound like a big puff for the Dovetailed hive; but we can only say that it came unsolicited. The thick-top frame, on account of its freedom from burr-combs, can not help being liked. Friend Jessup's experience with them is quite in line with that of hundreds of others who have tried them.]

THE AUTOMATIC SWARM-HIVER.

MR. ALLEY EXPLAINS; THE DIBBERN SWARMER.

I have just finished reading Mr. Dibbern's interesting article descriptive of his self-hiver and method of using the same. His article has been a long time in coming since first promised. I have tried in every way I could think of to get Bro. D. to send me one of his swarmers, but have not succeeded up to date. I am now glad he did not comply with my request. Well, if the bee-keepers of this country have an idea that I have tested but one style and but one way of using the swarmer, they are mistaken. Now I will surprise Bro. D. by telling him that the first time the swarmer was tried it was arranged above the hive as he now uses them; and, what is more, the drone and queen trap did the business in fine shape. The trap was placed on a hive in the usual way; a decoy hive was placed on the top of the hive from which the bees were expected to swarm, and the two hives connected by a wire-cloth tube. Two hives were so arranged, and two swarms were successfully hived when they issued.

You will now want to know why I abandoned a successful self-hiver for one that has proved

unsuccessful. My reasons are these: I did not consider placing one hive above another, as described by Mr. D., in order to catch a swarm, at all practical; and I still hold to that idea. I have found, by actual experiment and experience, that a self-hiver will work successfully when the bees are obliged to run to the right or to the left of the entrance when they swarm. This arrangement seems a good deal better than the one of Mr. Dibbern.

With the present arrangement as now used in the Bay State apiary we have but little trouble in getting the queen and all (or nearly all) the bees, that issue with the swarm. If catching a few drones and queen is considered successful automatic swarming, our swarmer has long been a success. I will say to those who purchased the swarmers sent out last season (1891), that the only thing to make them perfect, so that the queen is sure to be trapped without a failure in any case, is to make as large a hole as possible directly over the tube which conducts the queen into the long box B. The queen could not seem to find her way out of box A till the light was let in as described. Since this improvement was made, the swarmer has not failed to catch a queen in every case when a swarm issued. The more bees, especially young bees, that can be induced to go up into and out through the metal in box B, the more successfully the hiver is likely to work. When the bees that pass out through the metal in box B return in search of their queen, they generally try to enter the hive by the same passageway they went out. When they do this they find their way to the old hive blocked by the cone tube, and are obliged to stay with the queen, and other bees are sure to join the queen.

There is no doubt that the swarmer not only retards but actually breaks up the swarming fever in hundreds of cases. It reduces the number of drones, and this is one of the principal things that discourage swarming.

Some people have entertained an idea that, where the drone and queen trap is used, the bees gather and store less honey. Experience has proved the fallacy of this belief. I am sure that, instead of being a detriment to a colony, the trap greatly aids the bees in all their work.

Speaking of the success of the swarmer as now used, I will give one testimonial that came to hand to-day:

Friend Alley:—In regard to my experience with the swarmer, I will say I don't think you need have any fears but that it will work when treated and made as I have mine. The actual number of swarms it has hived was nine, without counting the one. 'It didn't hive all the swarms I had after getting the sample from you.

E. A. BOOL.

Hinchman, Mich., Nov. 15, 1891.

Mr. Bool gave a description of his way of using the swarmer in GLEANINGS, p. 706.

The first ideas of an automatic swarmer were suggested to me by an experiment I tried with the drone and queen trap. One day when a swarm issued through the trap, I saw the queen had been caught. I then put an empty hive at the side of the colony the bees came from, and placed the trap with the queen at the entrance of the new hive. In a few minutes the bees returned and entered the new hive—not a part of the new swarm, but all of the bees that were on the wing. Now, it was not the queen altogether that attracted the bees to the new hive. It was taking the trap from the old hive and placing it on the new one, thus giving the front of the new hive the same appearance that the bees had been accustomed to when returning from the field.

No one has ever questioned the practicability of the trap as a swarm-catcher, and soon the reputation of the automatic self-hiver will be

found as practicable as the drone and queen trap.

HENRY ALLEY.

Wenham, Mass.

[We do not yet quite see why you abandoned the upright swarmer as proposed by Mr. Dibern. With your arrangement, hives must be arranged in horizontal pairs, and this would necessitate leveling both hives alike. It is more economical to have both empty hive and "unswarmed" colony on the same stand; and then, too, a queen will crawl *upward* sooner than she would to the right or left into an unexplored hole.

If the swarmers will discourage swarming by restraining the drones, the trap or even a strip of perforated zinc will do it more cheaply. For the automatic swarmer to be a practical working success, it must hive at least 75 per cent of the swarms in the hands of every bee-keeper. It has hardly done this yet; at least, reports don't show it. We are not prejudiced against the swarmer, but earnestly hope for its success, and therefore welcome all reports regarding it.]

OUR SHANE APIARY AT HOME.

PHOTOGRAPHY, EVERGREENS, WINDBREAKS, ETC.

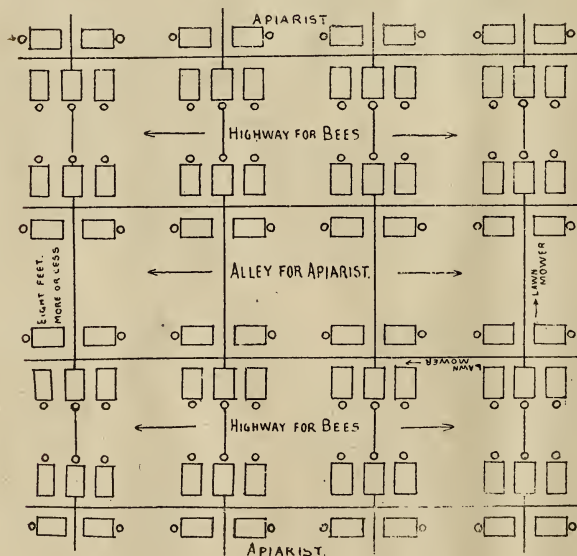
By Ernest R. Root.

As our readers doubtless know by this time, I have not only used the bicycle as an aid to my apicultural studies and investigations, but have brought into play the camera. Both of these hobbies were taken up for mere pastime,

that, while I was holding the bulb by which I regulated the exposure, the camera took in your humble servant—at least the upper part of him. Mr. Spafford, our apiarist, had just removed the cover from a Dovetailed hive, and was sending two or three whiffs of smoke over the frames to drive the bees down. The hives are arranged on the S. E. Miller plan of grouping—five in a group. This arrangement not only affords convenience, but the greatest economy of space. The apiarist has always a convenient seat, and his basket of tools for five hives is within an arm's reach. If grapevine or other shade is needed, one tree or vine will answer for five hives; whereas, by the single-hive plan there must be some sort of shrub for each stand. Besides this, there is an alleyway for the bees and one for the apiarist; and there is plenty of room for a two-horse wagon. Unless it is at night I do not advocate or practice the plan of driving horses in an apiary; but an empty wagon may be pushed among the hives, loaded up, and then the wagon can be drawn out by means of a long rope hitched to a team, at a safe distance from the bees.

When we brought home our Shane apiary at night, as before mentioned in GLEANINGS, the horses were driven up one of these alleyways, and the wagon unloaded on either side. All the hives shown in the picture were hauled in two loads—57 in one and 27 in another. The former were hauled on our heavy lumber-wagon, and the latter on our light platform spring.

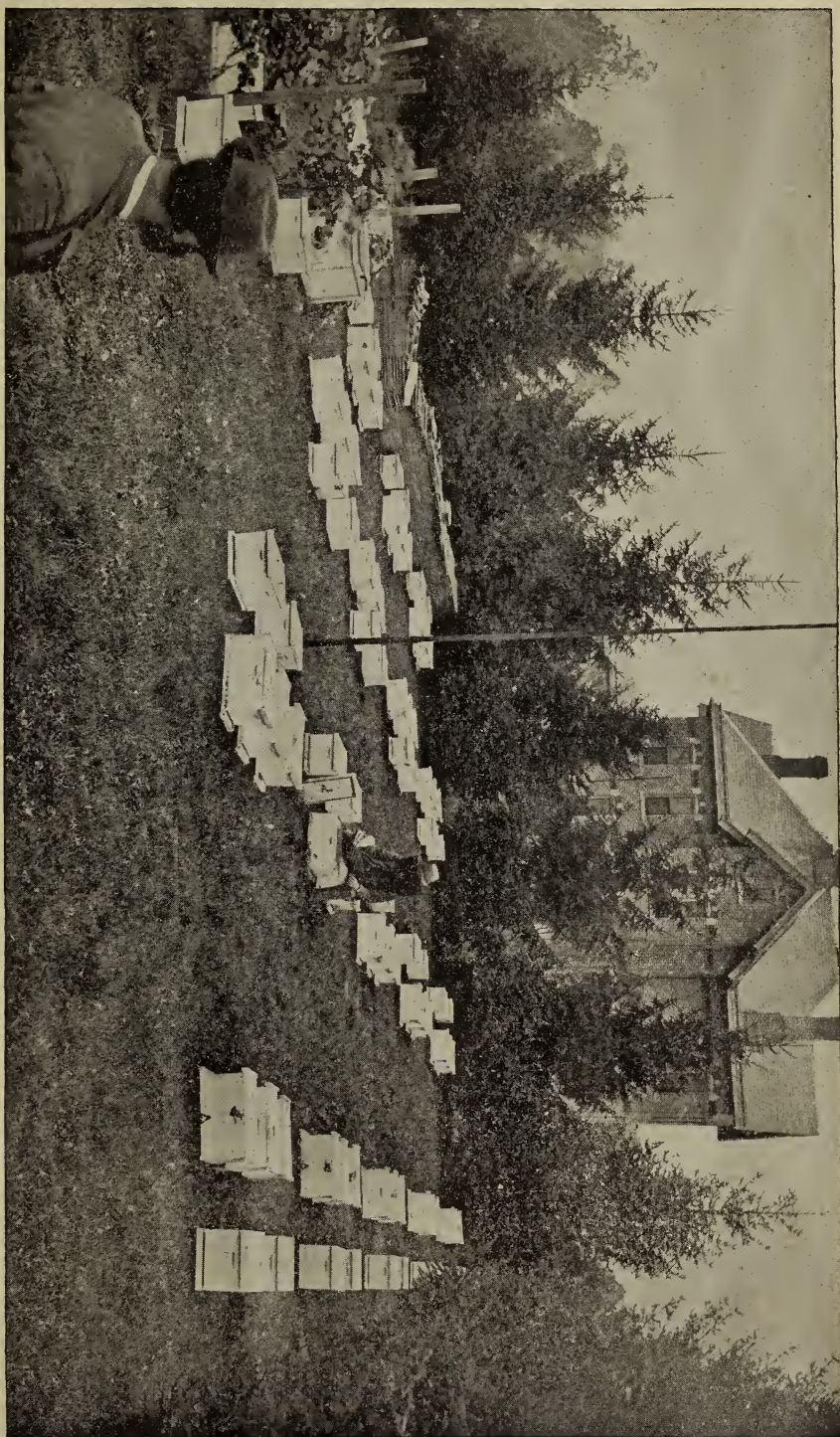
The plan of the apiary in the photograph is shown more exactly in the accompanying dia-



THE S. E. MILLER PLAN OF AN APIARY.

and as a recreation from my regular every-day duties. While they fulfilled this purpose admirably, I have been enabled to turn them to *practical* account. As I have told our readers heretofore, photographs of apiaries should not be taken when the sun shines, but, rather, on a cloudy day. One afternoon in October our yard was illuminated just to suit my fancy, and I accordingly poised the camera, and took a shot, while the apiarist was at work, of one corner of our home yard. The result shows

gram. The circles at the ends of the hives indicate the entrances. The groups are 16 feet apart, and the hives are 18 inches from each other. This leaves plenty of room for a lawn-mower to run in between, thus keeping the grass down. Eighty colonies arranged on this plan can be accommodated on a plot of ground 80 x 60 feet; or, better, 80 feet square if laid out in 24-ft. squares. It may be urged, that land is usually cheap where out-apiaries are located. Yes; but the larger the area for a certain num-



THE SHANE APIARY IN THE CORNER OF THE HOME YARD AT THE HOME OF THE HONEY-BEES.

ber of colonies, the more traveling to and from the different hives, and the more space of grass to mow down.

As will be noticed, the hives are all of the new dovetailed type, and every one of them contains Hoffman frames. They are ready at almost any moment, after closing the entrances and securing the cover and bottom, to be loaded on to a wagon like cordwood, or to be carried into the cellar without handling with care or right side up.

Every hive is elevated on a Heddon hive-stand, and this contributes in no small degree to one's comfort in working over the hives, and in the preservation of the bottom-board and the consequent dryness on the inside of the hive for either summer or winter. But of these I shall have occasion to speak in another article.

Perhaps the most conspicuous feature are the evergreens, which were set out in 1879; and now they have grown to such a size that they form an admirable windbreak. In a few years more we expect to cut off the tops, and then, of course, the limbs will intertwine closer than they do now. As it is, it is not pleasant for either man or beast to crowd by their branches, if, forsooth, he can. During some of our recent cold windy days I noticed a marked contrast between the amount of air circulating inside and that outside of the inclosure. While the evergreens waved and roared with the wind from without, inside it was comparatively quiet. When A. I. Root desired something better than a high board fence he builded (or, rather, set out) better than he knew.

Two or three weeks before this picture was taken, our hives had not been leveled up, and some visitors who had called seemed to be very much surprised that they were not in straight rows, and square with each other. We tried to explain to them that the hives had just been unloaded, and that we had not had time to draw them to a line. The explanation did not satisfy them. However, I determined, before more visitors came, that the hives should be lined up, and *they were*. As to how well the work was done may be evidenced by a look up the first row at the right. They are all "leveled"—that is to say, the front end of the hives is a trifle lower than the back, so as to shed water from the entrances. Yes, our whole apiary, even including the hexagonal part of it (only a very small portion of which shows in the picture), had been brought to a line.

I presume some of you have been asking, "Whose brick house is that just beyond the trees?" Well, that is the paternal mansion of Rootville. We do not all live there—oh, no! While it is a large and comfortable dwelling, it is not big enough for more than one family. My mother has always said that she loves her daughter and daughter-in-law too much to incur the risk of having them with their families under the same roof. This may account in no small degree for the fact that there have never been any "family rows" in Rootville. We all live under *our own* roofs, within about a stone's throw from each other.

NOTES FROM THE CHICAGO CONVENTION.

AS REPORTED BY DR. MILLER.

The Chicago convention was good. It always is. Nine states were represented, and a crowd of good workers were there. I think a little more solid work than usual was done. A business trip to the North by O. O. Poppleton gave us a representative from as far away as Florida. A. I. Root, who formerly did not favor conventions, has been converted from his errors; and

as he never does things by halves, he is now a convention man all over, and was a faithful worker through every session.

I saw there for the first time J. H. Larrabee, the representative of the United States government. I like him. He is modest enough not to think he knows every thing, and I don't see any reason why he should not be a real help to the fraternity. He was urged to communicate more frequently and more directly with beekeepers, and he expressed himself as desirous to hear from them, and especially to know upon what subjects they wanted experiments made. I think he has done this before, but, strange to say, I believe he reported that only one man had sent in any request as to experiments. This should not continue.

The convention tackled the very important item of grading honey. I think no convention has ever had the hardihood to undertake it before. A committee of seven, with Dr. Mason as chairman, were instructed to report a scheme for grading. Several times the report of the committee was called for, but each time the reply was, "Not ready." At last the report was that they couldn't agree. Then the convention resolved itself into a committee of the whole, and "rassled" with the problem in dead earnest. But the problem "downed" the convention, and dinner time found them without an agreement. "Too bad that we couldn't agree upon something, and at least make some kind of a start," was the comment of more than one during the noon hour.

After dinner, with perhaps a little feeling of desperation, the subject was renewed, in the attempt to see how far there could be any agreement. Then the good sense and the good spirit of the convention showed itself, and each one seemed willing to make any reasonable concession to the views of others. So a system of grading was agreed upon, subject to the revisional judgment of the assembled Albany wisdom. I think it is far from a perfect system; but it is a *start*, and that is at least something.

Among other things, the ubiquitous question as to Sunday closing of the World's Fair came up. Two to one were in favor of Sunday closing, but in the interest of harmony the majority yielded. It is not entirely clear to me why it would not have been just as graceful and proper for the minority to yield to the majority.

Although no action was taken, there was considerable discussion as to honey being entitled to the same bounty from the government as maple sugar. It was argued that the McKinley bill had so lowered the price of sugar imported, that the home product could not compete. To this it was replied that the same action had brought down the price of honey to meet sauces made with cheap sugar.

The convention, backed by two commission men, recommended the shipping of comb honey in single-tier cases holding 12 or 24 sections each. The weight of opinion seemed to favor, for extracted honey, square 60-lb. tin cans packed in wooden cases, two in a case, but some were quite earnest for cheap barrels.

Publication of honey quotations had some attention. The practice of publishing above or below what could be actually obtained was deprecated, and it was urged that those publishing quotations should give them somewhat as they were given of staples such as butter and wheat. That is, a man who sells on commission should say at what price honey is actually selling; and if he is a cash buyer he should say what price he is paying.

Action was taken toward allowing the society in future to be part and parcel of the State society organized last winter. It was the general opinion that this would be a good thing for both

sides, with no disadvantage to either. In any case, the same members will attend at Chicago, and, with low rates so frequently available, and such a central location, surrounded on all sides by live bee-keepers, there seems no good reason to suppose that there will be any failure in always having a good convention in Chicago.

That prince of secretaries and bee-reporters, W. Z. Hutchinson, was busily engaged throughout the session in pushing his pencil, and we shall undoubtedly have a full report in the proper time and place. C. C. MILLER.

Marengo, Ill., Nov. 24.

AN OPEN LETTER TO A SUPPLY-DEALER.

DR. MILLER URGES THE IMPORTANCE OF SMALLER PACKAGES FOR SHIPMENT.

My Dear Friend—(for I consider the whole multitude of supply-dealers as friends to bee-keepers), you have shown yourself so accommodating, and have so carefully studied the wants of your customers, that I feel quite free to suggest what I think might be still further appreciated by your patrons. I don't mean to say that I know more about running your business than you do, but I know how it seems at my end of the line better than you, and it will do no harm anyhow for me to make suggestions, and then you can follow them or not. It just occurs to me that you might profitably do the same thing; that is, make suggestions to your customers, and, as I think more about it, I believe that has been done to a considerable extent.

Your advertisements and price lists leave nothing to be desired in that line; and when an order is sent to you it is generally acknowledged by return mail, with some hint as to when the order will be filled, unless it can be filled at once. This prompt acknowledgment of the receipt of our orders is appreciated by us bee-keepers.

But when the goods are received from the railroad station, then the trouble begins. You have plenty of hands to handle with ease a lot of large boxes as well as a large lot of boxes; and, to make as little expense as possible in the way of packing, you very often pack goods in such large boxes that the bee-keeper who has no extra help is almost unable to handle them at all. You know that bee-keepers are very likely to live out in the country, where they can not readily get help on a lift; and a box weighing some 200 pounds is rather a stumper to be lifted out of a wagon and carried into a shop. I'm glad that sections have settled down into packages of 500, even if 10,000 be sent at a time.

I know that it costs a little more to pack in two or three small boxes than it does to pack in one large one; and I know, too, very well, that the extra expense, first or last, comes out of the bee-keeper's pocket; but then, I'd rather pay a little more, directly or indirectly, and have the goods in shape so I can handle them. Sometimes I have had a drayman haul out a load of supplies for me from the station just because they were in too large packages for me to handle alone, when the amount I paid the drayman would have more than paid the extra expense of putting up the goods in packages small enough to be easily handled.

Another thing that I would not lay so much stress upon may still be worth considering. It is, giving some little thought to what the packing-box may be good for after it is emptied. Some goods are so packed as to need no box of any sort, as hives are often packed. When possible, that is decidedly the best plan. But

sometimes a box is put together in such a way that, when emptied, it is of no possible use but for kindling-wood, when a mere trifle more would have made it a good serviceable box. Your customer will appreciate the box on the same principle that extracted honey sells best in packages that can be used otherwise when the honey is used out of them.

Occasionally I have had goods so insecurely packed that the railroad handling had broken them open. That's bad, and it's almost as bad to have them crossnailed or put together in such a fashion that the whole thing has to be nearly dug to pieces in getting it apart. Fasten them up just as you would if you had to open them yourself on arrival.

Sometimes I have studied over a package no little to know the right side to open up, and then perhaps opened it upside down. Possibly it didn't make any material difference, and possibly it did. The beginner who gets his first box of foundation packed as I have often seen them will be utterly in the dark as to where to commence opening. Some word written or stenciled on the right side to be opened, as, "Open here," would make all clear sailing.

There is a still worse trouble, and I'm not sure that there is any easy remedy. When several packages are sent at a time, there being a variety of articles, you study how to pack them to the best advantage, and I often admire your care and the ingenuity displayed in packing. But I'd like to have you at the other end of the line sometimes help to open. It may be that I am in a hurry for some one thing, and don't need the others for days, perhaps not for weeks, for it is getting more and more that bee-keepers order in advance of their needs, and you encourage this by offering discounts for early orders. But there is no way to know which box contains the thing I want. I open one box at random, and it may be that I have guessed right; but the chance is one out of ten. If I don't find it on top I must go to the bottom, so I must empty every box till I come to what I want.

Once I got a lot of stuff for shipping-cases packed in nine boxes weighing about 200 lbs. each. They were all piled up in one end of the room of the shop where they were to be made. The first box opened did not contain a full variety of pieces to make a shipping-case, neither did the second, third, or fourth, although I lacked only the small strips for the front, or, rather, one kind of them. I am stating a literal fact when I say to you that I had to open every one of those boxes, and found in the last one the pieces I wanted. When opened, the boxes could not well be piled up again, and so the floor was nearly all taken up with them, and one by one they were emptied as the stuff was used out of them.

I'm telling you about this, not because I know just how to remedy it, but because I think the difficulty at my end of the line has never occurred to you, and hoping that you may see some way out. In the last case I mentioned, the very best thing for me would be to have each box contain all the kinds of pieces to make a shipping-case, and the right number of each, so that a certain number of complete shipping-cases could be made before the second box should be opened. I don't know just how difficult it would be for you to do that. Possibly the remedy would be worse than the disease. Perhaps you could mark on each box what it contained, or number the boxes, and then tell in a letter what was in each box.

Now, don't think that I am utterly unreasonable, and that I don't appreciate the efforts you have made in the past to study the convenience of your customers. If none of the things I have

mentioned can be easily remedied, I can get along in the future as well as in the past; and if you can see an easy remedy I feel sure you will apply it.

C. C. MILLER.

Marengo, Ill., Nov. 11.

[Why, doctor, you have been studying on the same problem we have, and we were just "getting a good ready" to tell what we had done or were about to do, in the line you suggest. Well, perhaps we had better tell some of it now. In the first place, our Dovetailed hives per package of five hives require only a few ounces of crating, and this crating is for the sides and ends. The rest of the stuff is all boxed inside of itself; that is, inside of the bottom-boards, in such a way as not to mar or injure any portion of the hive. Since rubber stamps have become so cheap we are stenciling the contents of nearly every box we put up, in plain letters. The object of this is twofold: To avoid mistakes on the part of our packers in selecting the packages; and, second, to inform our customers, when goods are received, what the package is and what its contents are. Again, we have been reducing the size of many of our boxes. Our new goods are nearly all put up in small packages. You say you would like to have a box or crate that would be useful for something after it has subserved its purpose of protecting the goods during shipment. Well, we are about to do something in this line. Our 12 and 24 lb. shipping-cases are to be put up in crates with convenient handles holding 100 and 50 cases in a crate respectively, in the flat. After these are received by the consignee, the crate is made of such size and shape that it will hold either nine 24-lb. cases put up, or eighteen 12-lb. cases filled with honey. These crates are so made as to conform to the rulings of the Western Classification Committee; therefore bee-keepers who receive our shipping-cases will need to preserve the crates in which they come.

Some six or eight years ago, when the writer was at Oberlin, studying, he used to order goods from the Home of the Honey-bees, for local bee-keepers. When the goods were received he was greatly chagrined and surprised on one or two occasions to observe that some of the small packages had to be literally "dug open," as you say. One of the employees had evidently driven nails because he did not have any thing else to do, and they were long wire nails at that. Half the nails and half the size would have answered just as well for ten times the distance the packages had to travel. It did not take E. R. long to sit down and write home a genuine old-fashioned "growl." Even now, when he is perambulating through the packing-rooms, and finds some new hand putting a surplus of nails into a box, he hears from him, because he knows what it means to pull those same nails out again. We have learned that it is much better, where goods are very heavy and bulky, to bind the boxes with band iron, and use fewer nails, than to use a great lot of wire nails without the binding.

Some customers in the South have requested to have all their goods packed in one large box. These cases are very rare indeed where a lower rate of freight is obtained thereby. But even if a lower rate were obtained, many bee-keepers would prefer to pay more and have smaller packages.

This will doubtless be read by all supply-dealers, and we have no doubt that they have been making improvements in the line indicated. When bee-keepers and supply-dealers can get right down and consult each other's convenience, it will be dollars and cents in the pockets of all parties concerned.]

LADIES' CONVERSAZIONE.

INTRODUCING QUEENS IN THE FALL.

OUTDOOR FEEDING VS. FEEDING IN THE HIVE FOR WINTER.

I have often seen it advised in the bee-journals to purchase queens in the fall, as they can be bought cheaper then, and we have more time to see to improving our bees; but it is so much more uncertain about their being introduced safely that I would not advise purchasing high-priced queens in the fall unless there is an almost sure prospect of a honey-flow. If the queen is killed it takes time to send for another; or if they are left to raise one for themselves, the colony is apt to run down, and it is quite a risk to run—that of the young queen becoming fertile—because, if there is no honey-flow, there are but few drones. Tinkering with bees to keep them built up in time of a honey-dearth, and no queen, is more than likely to prove an injury to them, even in the hands of veteran bee-keepers. I did not, in past years, think so; but I have come to the conclusion that, in times when there is no honey coming in, the fewer bees that can be handled, if they have a queen and plenty of honey, the better it is for that colony. In fact, about all a colony of bees needs is a good queen, a continuous honey-flow, and plenty of room to store honey; but it does not seem a detriment to them to be handled frequently, provided the queen is not injured; but in time of a honey-dearth, if they have even a fair queen, I would let them alone and give them an occasional feed out of doors, of sugar syrup in a shallow wooden feeder, with wooden floats, made by nailing strips of boards together, with bee-spaces between, set up edgewise. Ours is about 4 inches deep, 6 feet long, and 1 foot wide. It ought not to be too heavy for a woman to handle, as, very likely, she will have much of the occasional feeding to do; neither should it be small, because it takes more time to feed in small feeders and keep them clean. The little boards that the floats are made of should not be of too thin lumber, because they will give out too soon; nor of too heavy lumber, because they should float readily on top of the syrup, and sink when the syrup is taken out. For 100 colonies there should be at least three such feeders, to give sufficient room for all, that they may take it up quickly and not alight upon each other. It makes the colonies in much better heart, this occasional feeding when no nectar is secreted in the flowers.

We found that 100 colonies would take up 12 quarts, which would be about half a teacupful to the hive, in about 15 minutes after they had been fed several times. It was surprising to see how quickly the news would spread over the apiary that the syrup was coming. We feed at all times of the day, just when most convenient, but when warm so the bees could fly readily. If the neighbors' bees got any it did them good. So much time is saved in thus feeding outdoors, that it more than pays our loss of a little syrup. If bees are two miles away they get but little of the syrup, as it is taken up so quickly, and the feeder is abandoned very soon after the feed is taken up. As our bees are mostly Italians, and the neighbors' are nearly all blacks, we can tell when their bees come.

You say in your footnotes to my article in GLEANINGS of Oct. 15, that one objection to feeding sweetened water is, that it sours so soon. I would not feed it so weak that the bees

would not take it up readily, nor so much at a time that it would have time to sour before they work it all. Sometimes, when I would take a pailful down to replenish the feeder, it would not all be gone then. If it is poured in slowly in one spot, as the feed causes the feeder-float to rise it carries the bees up with it, and the bees back out as the syrup rises; and if the weather is not too cold it will not hurt them if a little syrup gets on them, if not too thick. Last spring they seemed to get daubed, and some would not get back to their hives when the syrup was rich; but this fall we fed syrup just as rich with no such trouble. I think it was because we gave them more room, and the wind was not so chilly when we fed. This fall we fed out of doors in a sunny place, the ground covered with leaves, and with room for all to work. After feeding up for winter (we fed about $4\frac{1}{2}$ barrels to 225 colonies, and some colonies had enough to winter) there was about half a barrel of sugar left; and as the bees were short of feed we fed the half-barrel outdoors, and also quite a large number of brood-combs that had just a little honey in them, some more and some less. They did not quarrel over the honey in combs nor in the feeders. Because there was room for all, I think, was the reason there was scarcely any loss of bees.

Those feeders make good watering-troughs for bees when not needed for feeding. The only objection is, they become foul when used for watering, and are hardly clean enough unless they are thoroughly scraped and scalded. If left dry they may leak; but I heated rosin and lard (just enough lard so that the rosin would not be too brittle, and not enough to make the rosin soft, so that the bees would stick to it), then poured in the rosin, a little at a time, very hot, and let it run down one side, and a little more for the ends, holding up the trough so that the rosin ran along the cracks only where joined together, being careful not to miss any place.

We had quite a number of supers with just a little black honey in the sections. We tried piling them up out of doors with just room enough for half a dozen bees or so to get in at a time; but they would kill each other so badly that we carried them back to the honey-house. When we fed in feeders or brood-combs we could take out those sections and set around on top of hives, and there was no fighting; but they soil the sections too much. If caps are unsealed, and then removed just as quickly as the honey is all gone, they are not injured much. The cappings are wasted if not shaved off or put on a broad board.

□ Roseville, Ill., Nov. 10. MRS. L. C. AXTELL.

[We have read your article with considerable interest. It would be a great saving of time if we could manage to feed outdoors, and yet overcome all the difficulties. To many of us the feeding of so many bees belonging to neighbors would render the practice unprofitable; and even if the neighbors were of the kind and gentler sort, willing to pay their share, it would be hard to decide what would be fair for all parties concerned. One difficulty that we experienced years ago was, that the stronger colonies would get a good deal more than their proportionate amount of feed, while the weaker ones would have a great deal less than they ought to have. In other words, it would cost us more to feed up outdoors on account of the unequal distribution of stores than it would to feed each colony the exact amount it required *in the hive*. Outdoor feeding is a splendid thing to keep the bees out of mischief, during a dearth of honey. If we could buy up all the neighbors' bees, and equalize the strength of the colonies throughout the

apiary, perhaps we could feed quite satisfactorily outdoors for winter. But feeding is a very small job with us. We have about two dozen large Miller feeders. The amount required for each hive is marked on each cover or each slate, and the feeders are put on during the day. Toward evening, with our large feeding-cans we go around and pour out by measure the amount each colony will need, and the feeding with the colony is done for the whole year. We do it all at once. Two hours' time every day toward evening for a week will feed up a hundred colonies.

In regard to introducing queens in the fall, there is a little more danger if you leave the colony to its own sweet will. We recommend feeding the colony a little if it is during a honey-dearth, before introducing. The condition of the hive then, although artificially brought about, is nearly the same as during the honey-flow. Mr. Hutchinson, in his "Advanced Bee Culture," makes this a strong point for successful introducing.]

ORDER IN THE APIARY.

A PLACE FOR EVERY THING, AND EVERY THING IN ITS PLACE.

I wonder if it troubles other bee-keepers as much as it does us to keep things picked up and put in place. Our out-apiaries are generally in good shape, for we think we *must* straighten things up there before we leave. It is the home apiary that suffers. It is so easy to think we must rest a little before putting things straight, and we are too tired to do another bit of work that night, and as it's at home we can easily fix things up in the morning! In the morning something else is very apt to interfere with the cleaning-up, and it goes until a more convenient time, and sometimes things get pretty well stirred up before that convenient time comes.

I don't mean to say that we never pick things up the same day, but that sometimes they are left, and I believe we are almost always sorry for it. I *know* I am. It doesn't take such a great amount of time or strength either to do it at once, and the amount of comfort it gives to know that every thing is in good shape more than pays. Aside from the comfort, there is a great deal wasted by leaving things lying around, and a great deal of time wasted in looking for them.

It is a great deal better to drive our work than to let it drive us. If we once get behind it is extremely hard to catch up. I know there are times when a certain amount of work must be done in a day, and by the time that is done we are so utterly worn out that it would scarcely be wise to attempt any thing else. In that case the straightening-up would better be postponed—but that doesn't often happen.

Perhaps some bee-keepers don't do any stirring-up in their apiaries, consequently don't need to do any straightening-up at night. But ours often looks as though a cyclone had struck it, only perhaps the cyclone would have swept things cleaner. I have often looked around our apiary at night, after a busy day, with genuine dismay, and wondered if it ever would be reduced to any thing like order. But it always came out all right in a short time, if we only went to work at it right away.

It's a good deal the same with our shop. We have our "clarin' up" times, as Dinah had, and every thing is put in apple-pie order. Then we firmly resolve that every thing shall be kept so. For a time all goes on swimmingly. Then some one gets in a hurry, drops a tool where it doesn't belong, or perhaps a lot of stuff

comes in boxes that must be opened, making a big muss, which, in the hurry of the moment, is left, and so it goes, one thing after another, until any one might easily imagine that things never were in order and never would be.

A bee-keeper always has many odds and ends as well as regular tools and fixtures to store away until needed. They are sure to be needed some time, but the problem is to keep them all in plain sight so they can be readily found when wanted without having to spend more time looking for them than they are worth. We sometimes nail boxes against the wall, forming little cupboards in which the odds and ends are placed, or any thing we wish to store, such as T tins, wire stoppers for hives, etc. Then by glancing around the room we can usually find what we want, without much trouble.

EMMA WILSON.

Marengo, Ill.

[Your remarks on order are excellent. From what we saw on our visit to Dr. Miller's we have no doubt that you practice what you preach. It is a good deal easier to keep things in order every day than it is to have a general "clarin' up" once a month; but we suspect that, if you were to visit the apiary at the Home of the Honey-bees during the busy season, you might wonder whether we *ever* had a "clarin' up." While we are dictating, we cast our eyes over our office desk. It looks decidedly neglected—books, papers, manuscripts, electrotypes, bee-traps—well, we won't say any more, because we are ashamed already. We have decided to have a clarin' up before Dr. Miller and W. Z. Hutchinson give us a call. If folks would only let us *know* when they are coming, we would try to have the grass cut down from our entrances, hives all leveled up, tools all put away, and our desk in apple-pie order.]

OUR QUESTION - BOX,

WITH REPLIES FROM OUR BEST AUTHORITIES.

QUESTION 197. *After a swarm has issued would you advise introducing a laying queen to the parent hive, or let them raise a queen of their own?*

I introduce a laying queen.

Ohio. N. W.

A. B. MASON.

For general practice I think it better to let them rear their queen.

Michigan. C.

A. J. COOK.

Where one has skill and time to rear and introduce queens, introduce them; otherwise, let them develop their own.

California. S.

R. WILKIN.

If they are No. 1 bees, I would; if they are not, I would improve the opportunity of introducing a good one.

Illinois. N. W. C.

MRS. L. HARRISON.

I don't know. I haven't had experience. I rather think if I let them swarm I'd follow in the same line and let them raise a queen.

Illinois. N.

C. C. MILLER.

Let them develop their own queen, which is already half developed at the time the swarm issues. Do not introduce any queen.

Michigan. S. W.

JAMES HEDDON.

Yes; for by so doing I gain time, prevent second swarms, and run no risk of having a

queenless hive by the young queen getting lost on her bridal tour.

Louisiana. E. C.

P. L. VIALON.

That would depend much upon locality. If you have a fall flow of honey, and need the bees, introduce a queen to the parent colony. If not, let them raise a queen.

Ohio. N. W.

H. R. BOARDMAN.

With our honey resources I should prefer to have them raise a queen of their own. With present prices of honey, the bee-keeper should avoid labor that does not pay.

New York. C.

P. H. ELWOOD.

My practice is, to let them raise their own. Eggs require about six weeks to eventuate in honey-gatherers; and six weeks after swarming time, the harvest, in many localities, is over.

Ohio. N. W.

E. E. HASTY.

It will be the most profitable to let the parent colony raise a queen of their own, because such queens count among the healthiest and best queens raised. But all after-swarms should be prevented.

Ohio. S. W.

C. F. MUTH.

If I had good laying queens, with no other use for them, I would introduce them at this time. Usually I prefer to introduce a virgin queen that I know has been raised from good stock.

Illinois. N. C.

J. A. GREEN.

We should prefer introducing a laying queen of choice stock, if we had one; and we would then destroy all the queen-cells to prevent further swarming. If, however, the colony thus swarming was a choice one, we would not hesitate to let them raise their own queen.

Illinois. N. W.

DADANT & SON.

If it is an early swarm I should prefer to introduce a queen. A later swarm toward the close of the honey-flow might be allowed to raise their own queen. I want egg-laying to go on briskly when there is a prospect of those eggs hatching bees that will gather honey.

New York. E.

RAMBLER.

With us, with our short honey season, I would rather let them raise their own queen. If we should introduce a laying queen after the season was so far advanced, bees hatched from her eggs would never gather any surplus honey for us, as the season would be over before they would hatch out. I would much rather not feed brood at that time. Let the bees put all their force to gathering honey.

Wisconsin. S. W.

E. FRANCE.

I would let them raise their own queen. In this locality the giving of a laying queen causes the parent hive to swarm again right in the midst of the honey-harvest, which is a great detriment; while the bees produced from the eggs laid by this queen during the first two weeks of her stay in the hive become consumers at the end of the harvest, so here again it is a disadvantage without any recompense, as these bees all die before winter, so are of no advantage, even for this purpose.

New York. C.

G. M. DOOLITTLE.

I would say to most people, let them raise a queen of their own if the stock is desirable; if not, cut out *all* queen-cells and give them a cell from a choice colony. But my method is, to cut out all queen-cells the fourth day after they issue, and again in 8 days; and in two or three days after, I run in a virgin queen raised from

a choice stock. My experience is, that, if a laying queen is introduced too soon, another swarm is liable to issue, as they also are if allowed to hatch a queen; but by keeping them queenless 14 or 15 days they are then hopelessly queenless, and will accept a virgin queen, and will not swarm.

Vermont. N. W.

A. E. MANUM.

Give them a laying queen if you have one to spare; but every one does not have laying queens waiting around for that purpose. In my plan of management I so reduce the numbers in the old colony that it does not matter so much if they do not have a laying queen for a few days till they can rear one from some of the most advanced queen-cells. My plan is, to give all combs and adhering bees but two frames to the new colony, removing to a new stand where, with swarming impulses satisfied, they work with a will, and gather more honey than they would if they had not swarmed at all; and the few left on the old stand will build up into a good colony for next year.

Wisconsin. S. W.

S. I. FREEBORN.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

PATENTS ON BEE-HIVES.

Another patent has just been issued on a bee-hive. It is dated Nov. 10, 1891, and was given to Reuben H. Ewing, of Iowa. It is the old story—a moth-proof hive—worthless and useless, with not a new feature in it. Here is the claim of the so-called invention:

The bee-hive A, having a horizontal bottom B, with the central hole *b*, just large enough to allow the bees to pass through it, and an upwardly convex bottom C, whose oppositely inclined sides meet in a vertex *c*, directly under the said hole, and just far enough therefrom to permit the bees to reach the hole, the said hive being provided with opposite entrances *c' c'* for the bees and moths between said bottoms, as shown and described.

The inventor does not even know the sex of worker bees, as will be seen by the following from specifications, where it is called *he* every time.

The tendency of the bee is to move upwardly; and as soon as he reaches the vertex *c* he will make for the entrance *b*, while the moth will travel up one side of the bottom C, and down the other, thereby failing to get into the honey or bee-chambers at all, not being able to reach the hole *b*, even if inclined to do so.

What a *pity* it is to fool away good money for such a *worthless* patent!

What *stupidity* it is to maintain a lot of useless "examiners" to approve of inventions, the practical workings of which they know nothing about!

What *dishonesty* it is to grant patents, over and over again, to different persons on precisely the same thing!

What *robbery* it is to take the money of the credulous inventor and render no equivalent for it!

In this case the patentee has sold one-half of the "invention" in advance to secure the money to get a patent, which, for practical purposes, is not worth the paper it is printed upon! Bah!
—*American Bee Journal*.

BLACK BEES SUPERIOR TO ITALIANS.

The Italians are doomed in this section—too much swarming and too little honey, and too much stinging. Now, when my native brown bees were booming on buckwheat and storing

beautiful amber honey in supers, one-pound boxes, the Italians were gathering honey-dew and using it all up in raising brood, and in swarming and clustering, five or six swarms together; and they balled all the queens, and then all the bees would go to one hive that issued one swarm, and pile on so you could not see any thing but a pile of bees. Well, I learned how to separate them, but it's a muss and bother. I have five brown (or native) colonies that did not swarm this year nor last. One queen is two years old; but the other four queens superseded young queens, and one colony has the second young queen this year, and hasn't swarmed out for two years, and has filled eighty one-pound boxes of the whitest honey you ever looked at, and 8 Langstroth frames of buckwheat honey, and two frames, half of honey and half of brood, at this date, Oct. 5. Said hive is a Chautauqua double-walled hive with two supers and one top.

SETH NELSON.

Wistar, Pa., Oct. 6.

A STRONG TESTIMONIAL FOR THE IMPORTED ITALIANS.

You have given brood-frames a good, long, and thorough discussion; now if you would give the queen subject as good an overhauling it would be very interesting to me, but may be not to the majority of the readers of GLEANINGS. I have been studying, and putting to practical test this subject of queen-breeding for about ten years, and I have never been able to buy more than one queen that came up to my own raising for honey, and that was an untested one I got of A. I. Root in August, 1890. I told him I wanted a daughter of an imported mother, and I suppose that was what I got; but she was so dark that I was ashamed to show her to a bee-man who happened to be at the office when I got her. But I am not ashamed of her bees nor of the pile of honey they put up the past summer; and, besides, the queen led off a fine swarm and made 56 sections of honey after filling a new hive of 10 Simplicity frames. I then divided the old colony, and made two out of that, and got a crate of 28 sections partly filled from one of them, and got 28 sections before they swarmed. Of course, that is not big for some localities; but for this one I do not think it can be surpassed. I have bought several fine queens, and then would have to discard them and then stock up afterward on account of their poor qualities. I like extra fine bees, such as five-banded, to look at as well as any one; and if I can find those that will come up to the three-banded, such as the daughters of imported mothers produce, I want them, and will willingly pay \$5.00 apiece for queens that will produce strictly five-banded bees, and come up to what I have for honey.

Poplar Flat, Ky., Oct. 26. L. C. CALVERT.

[Your letter seems to argue that we have been giving some attention to the matter of good queens. It is hard to get a strain of bees that will invariably duplicate certain qualities; but our imported stock come the nearest to it. Our dark bees generally do little the best in honey, and so far are the hardiest in winter.]

YELLOW OCHER VS. WHITE-LEAD PAINT.

We note what you say on page 864 about white lead for a body paint to hives. Having had a number of years experience along this line, we several years ago tried yellow ocher instead of white, and have nearly half of our hives painted a light straw color. We find it lasts much better than white, as the hives thus painted two years ago still have a bright appearance, while those painted white turn quite

dark in color after a few years' exposure to the weather, and appear more weather-beaten than those in which yellow ocher was used. A very good grade of ocher at 3 cts. per lb. will answer; and if a dainty light yellow is wanted, chrome yellow can be used in the second coat instead of the ocher. Our hives thus treated show no more discomfort to their inmates than the ones painted white. JNO. NEBEL & SON.

High Hill, Mo.

[Yes, sir; there is no disputing the fact about the sticking qualities of yellow ocher. We somewhat question the advisability of using chrome yellow. It lacks permanence, and therefore ought not to be mixed with a hive paint.]

AN UNFAVORABLE REPORT FROM THE FIVE-BANDED BEES.

You do not seem to be booming the five-banded bees for gentleness as you did a while back in your advertisements. I purchased 14 in August, 1890, and have wished all summer that some one else had them. I will not have them after next spring. I am going to give them to a friend who has the rheumatism. If there is anything in the theory that bee-stings are good for rheumatism they will cure him. I do not expect to be troubled with it; for if there were any rheumatic microbes in my system the five-banded doctors thoroughly paralyzed them during the past season. WM. L. EWING.

Vincennes, Ind., Nov. 2.

[We never boomed the five-banded bees in any particular. You must have some other fellow in mind. It is but fair to remark, that not all five-banded bees are bad stingers. Those we saw at Mr. Doolittle's were very gentle. Those extra yellow bees bred from Cyprian stock are vicious, or apt to be so.] E. R.

SPARE THE BIRDS.

I have taken quite an interest in the king-bird talk, and must say that, in our country, they don't seem to make bee-killing an especial business. They are mostly abroad in the fields, intent on picking up bugs, crickets, etc., like other birds. Other birds, too, seem to prey upon the bee-hive. The cat-bird is evidently as active an enemy of the bee, for I have seen them fly about my hives even more than the king-bird. I think we ought to spare the birds, for it is plain to be seen that they are becoming scarcer every year; and before we pass the sentence of death on any species we should ask ourselves which are of more consequence, the birds or the bees.

Preston, Minn.

F. A. CUMMINGS.

"DONE SPLENDIDLY;" CLOSED-END FRAMES.

I have done splendidly with my bees this year, and I attribute my success to GLEANINGS and your A B C. I am using the closed-end standing frame with the Bristol bottom-board, and several other parts of hives that I have combined together for a double or single walled hive and cheapness combined. The old bee-men of this section say they have not seen any thing to surpass it for comb honey; of course, it would be nothing new to you, as it was mostly taken from GLEANINGS. CHAS. HOWELL.

Hackettstown, N. J., Nov. 5.

A PRACTICAL TEMPERANCE SERMON ESPECIALLY FOR FARMERS AND MARKET-GARDENERS.

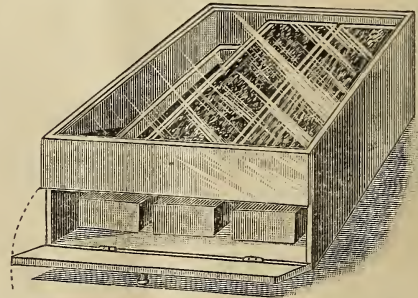
A man in this city, located next door to a liquor-saloon, sells over 150 quarts of milk every day, by the glass. We know that many men drink this ice-cold milk who would otherwise

drink beer. The sale of milk by the glass has largely increased during the past few years, and this increased trade is about the healthiest temperance sign we know of. Any one who knows the life of our large cities must understand that a harmless substitute for the saloon is necessary if real temperance progress is to be expected. Theory is one thing, an actual fact is another. There are thousands of men who drink liquors, even to excess, because they do not find a non-intoxicant that they like. Pure cold milk suits them, and they will drink it in place of beer. Let the temperance organizations spend some of their money in locating these milk-saloons close by the door of every rum-shop in the city. They will thus do practical work for temperance, and at the same time provide a new market for milk.—*Rural New-Yorker*.

A NOVEL METHOD OF FORMING SEED-BOXES.

The inclosed was received rather too late last year to be seasonable. Our friends who raise plants on a small scale will probably find it convenient.

Mr. Root:—Inclosed find a rough sketch of a novel little hotbed kept warm with hot bricks—soapstone would be best—I am using in my window to force a few tomato-plants. Shallow cigar-boxes are very convenient for holding the soil; and as they are about 5 inches wide and 8½ long, I would suggest that the inside of the main box be 16x9x6 deep, so a 10x18 window-glass can be laid over the top of all, to retain the heat and moisture until the seed have sprouted through the ground. We can readily see that most of the heat must pass up through the shallow boxes of dirt if they are fitted close,



WINDOW HOTBED, TO BE KEPT WARM BY THREE HOT BRICKS UNDER THE PLANT-BOXES.

or raw cotton can be pushed down between and around the boxes to close the vent. The bricks can be warmed easily on top of the stove, and will retain the heat some time. All seed-beds should be kept quite moist until the delicate little plants have straightened themselves up through the soil. J. S. REESE.

Winchester, Ky.

EPILOBIUM, OR GREAT WILLOW HERB.

From my front door, looking over the valley of the Jordan River, I see 100 acres, a solid purple sea of the beautiful Indian pink, purple fireweed, or, correctly speaking, *Epilobium angustifolium*, or great willow herb. It is not only a feast of beauty to the eye, but a flow of honey to the greedy bees, who neglect even the loaded linden bloom for the delicious white nectar of this grand honey-producer. Happy indeed is the apiarist who lives in the land where this plant reigns supreme among weeds.—*Rural New-Yorker*.

THE GARDEN CITY ALFALFA FIELDS PAINTED IN TOO HIGH COLORS; SEE PAGE 894.

Almost too flattering are the reports from Southwest Kansas, in GLEANINGS for Nov. 15, page 894. Mr. McKeever gives this country a pretty good puff; and although he is a preacher, he is also a boomer for this section of country. Now, I do not want to be hard on Mr. McKeever; I only want the facts stated. I will give my report for 1891.

I received from 25 stands, spring count, 800 lbs. of comb honey in 1-lb. sections; 1200 lbs. of extracted honey—about 55 lbs. per stand—and increased to 40 colonies in fair condition for winter. Mr. McKeever says, on page 894, that we have from 50 to 60 stands apiece. I have 35 stands, and Mr. Colton has 65. They came far from an average of 90 lbs. of comb honey. It will worry them to make that much extracted honey on an average. One hive made 180 lbs., but it was not all comb honey; neither were the bees from one of Doolittle's tested queens, and they did not swarm.

Alfalfa does not yield honey all the season—only at certain times. This season our flow was from the 15th of July to the last of August. Last season the surplus flow was in June. He says we can't supply the demand for bees at \$10 a stand. A person can not sell 20 stands of bees in this country. There are not so many thousand acres of alfalfa here. It is diminishing. We get fair crops of honey because our apiaries are small. The country will be overstocked with bees just like Arizona in a very few years. This section is not like the Eastern States, because there is nothing to furnish honey except the alfalfa. Wild flowers amount to nothing; fruit-bloom helps to build up in spring some.

I only wish to give the public the facts about this country. There would be a good many disappointed in coming out here after reading his letter. In this market we have not sold 200 lbs. of honey this season. We have to ship most of our honey east or west, and we do not get over 15 cts. for comb honey after the high freight is paid.

I would not advise people to leave a fair location and come here to better themselves. I made the move and am here, and, of course, will stay. We can not make moves every day. It is a great expense to move.

FRANK H. HOWARD.

Garden City, Kan., Nov. 20.

[What we desire to have are the facts in the case. Perhaps our friend McKeever has seen or heard only the bright side.]

GETTING DISCOURAGED WITH BEES.

There are a few reasons why I can not make a success canvassing for GLEANINGS. I can find but few men who care for their bees. When I find a good bee-keeper he is posted. The three years past have been so poor that many have gone out of the business. Many farmers are satisfied with the knowledge they get from their agricultural papers, and will not take a bee-paper. I wish the Home talks could be introduced into every home in our land, and their teachings heeded and practiced. Like many others I would have destroyed my bees if it had not been for you. You say, "Hold on one year longer." I mean to try one year longer.

Bancroft, Mich., Nov. 11. LUTHER PRATT.

TWO PUNIC VIRGIN QUEENS THAT "TURNED UP MISSING."

I see Dr. Miller says in Stray Straws, that, after his Punic queen had commenced to lay in fine shape, she suddenly disappeared. I received two virgin Punic queens from friend Pratt. They were safely introduced, and in 25

days I found young bees hatching out. One was mated to an Italian drone, the other Carniolan. Two or three weeks ago I found both colonies queenless. My Punics, like Dr. Miller's, had suddenly and mysteriously disappeared.

T. K. MASSIE.

Concord Church, W. Va., Oct. 20.

THE WAY IN WHICH LIME ACTS AS A FERTILIZER.

The effect of lime to render stiff soils less adhesive is well shown by an experiment of Prof. Hilgard. Let any clay or tough clay soil, he says, be worked into a plastic mass with water and then dried; the result will be a mass of almost stony hardness. But add to some of the same paste half a per cent of caustic lime and a diminution of plasticity will be obvious at once, even in the wet condition; and, on drying, the mass will fall into a pile of crumbs at a mere touch. In this way clay soils may be made "warmer" or "mellower" by adding caustic lime.—*Rural New-Yorker*.

DR. MILLER AND PROF. COOK AS CONTRIBUTORS TO GLEANINGS.

Please continue GLEANINGS for another year. I had thought of doing without it; but, come to think of it, I can not. I would rather go to bed without my supper twice each month than to miss GLEANINGS. I never had a book so interesting; and the more Dr. C. C. Miller and Prof. Cook have to say, the more interesting it is. Mr. Miller writes nothing in GLEANINGS that I miss.

JAMES PRATT.

Corning, Ia., Oct. 27.

BEES DID POORLY.

Bees did poorly in this part of the State. Many got no swarms, no surplus, and have to feed for winter. One of my neighbors with 40 colonies, spring count, will have to feed 800 lbs. of sugar or let his bees starve. I got 800 boxes from 30 colonies, spring count. My other yards I haven't counted up yet.

REV. JAMES ANDREWS.

Red House, N. Y., Nov. 16.

"DONE NOBLY."

Bees have done nobly this season. From 25 stocks I secured 2000 lbs. of honey, mostly of fine flavor. The flow from aster was not as profuse this fall as usual, on account of excessive dryness. However, I secured about 300 lbs. from that source.

R. E. BEAUCHAMP.

Adairville, Ky., Nov. 13.

BEE-KEEPERS GETTING THICK.

One year ago there were scarcely any bees here; but now you can hardly throw a rock without hitting a bee-keeper. It begins to look as if this section would be overstocked soon with bees. Nearly all who are here are inexperienced; but the success of most the past season has been good. LOGAN K. RAYBURN.

Acton, Cal., Nov. 4.

BEES PAYING BETTER THAN FARMING.

I had 70 stands of bees, spring count; increased to 102, and got 5650 lbs. of comb honey, all in sections, all nice and white, except about 125 lbs. It pays better than farming.

Dover, Mich., Nov. 21. A. N. WHITLOCK.

THE ORIGIN OF BAMFUZZLE AND BUMFUZZLE.

In reading the proceedings of the California Bee-keepers' Association I was somewhat amused at the use of the word "bamfuzzle." I had almost forgotten it. I had heard it used many times when a boy, only it was called *bum* instead of *bamfuzzle*. Who the originator of the word was, I am not able to tell; but it was

used in this way: When the old farmers got their cider made in the fall, and put into the barrels they would let it stand, and would say, "Let it bumfuzzle;" that is, let it work a little, and throw out and off the impurities. Some would let it bumfuzzle longer than others. The longer it bumfuzzled, the harder and stronger would be the cider. When it had bumfuzzled to suit the man's taste it was racked off, put into a clean cask, and tightly bunged up for winter; so the meaning of the word seems to be to *cleanse* or to *purify*; and perhaps the president was only doing his duty when he was trying to bumfuzzle them. There is a great deal of bumfuzzling needed in many places.

Atwood, Ill., Nov. 23.

J. W. C. GRAY.

OUR HOMES AND MY NEIGHBORS.

Lord, remember me when thou comest into thy kingdom. LUKE 23:42.

While spending Sunday in the city of Lansing, Mich., I, of course, as is my habit, attended as many religious meetings as possible. During the afternoon I met some pleasant-looking young men on the streets, who were passing out cards. One of the cards read as follows:

"THE DETECTIVE."

A TALK FOR MEN

BY

CHAS. E. THOMAS,

SUNDAY, AT 4 O'CLOCK P. M.,

at the Young Men's Christian Association Rooms.

*YOU ARE INVITED.—Social song service,
and short talks every night during the
week at 7:30.*

At four o'clock I was promptly on hand for the address. The speaker was a converted lawyer. He handled his subject much as lawyers do in pleading a case. There is something wonderfully interesting to me in hearing a lawyer plead Christ's cause. They are accustomed to give their subject a certain *kind* of intense thought and study that we seldom meet among the clergy. His hearers were mostly young men. Toward the close of his discourse he gave us a thought that was new to me—at least he presented it so as to give one side of it I had never thought of before. I wish I could present it to you, dear friends, as he presented it to us on that Sunday afternoon; and may the Holy Spirit guide me as I undertake the task.

The theme was the crucifixion, as you will gather from the text. He called our attention especially to the two thieves on the cross. They were *both sinners*. In fact, one of them said as much; and Mark tells us that "they that were crucified with him reviled him;" Matthew tells us that the people were reviling him, and saying, "He trusted in God; let him have him now if he will; for he said, I am the Son of God." And then Matthew goes on to say further, "The thieves also which were crucified with him cast the same in his teeth." Finally one of the thieves, beholding the Son of God, and perhaps being impressed with his demeanor and his meekness under all his sufferings and cruel taunts, seemed to notice him more closely; and when his companion said, "If thou be the Christ, save thyself and us," he rebuked him, saying, "Dost thou not fear God, seeing thou art in the same condemnation?" And then he adds, "And we indeed *justly*, for we receive the due

reward of our deeds; but this man hath done nothing amiss." You see, they acknowledged that their punishment was just; and this particular one, instead of railing at his persecutors—instead of finding fault with the laws of the land, and instead of blaming the Son of God for their cruel torture, he acknowledges the justice, and in the same breath confesses that *Jesus*, unlike *him* and his *companion*, is *innocent*. Finally, as he approaches death, in a very few simple words he makes a faint and feeble confession of Christ Jesus, acknowledging his power, and shows a glimpse of a feeble sort of faith. He *believes* in the Savior, and he *trusts* him, at least a little. At the same time he seems to have such a glimpse of his own grievously sinful life that he evidently does not expect very much nor seem to have very much *hope*. He turns and speaks to the suffering Redeemer, and says, simply, "Lord, remember me when thou comest into thy kingdom." He does not ask for pardon; perhaps he does not deem it possible that such a thing can happen; but he ventures to ask the Savior to *remember* him. He evidently has heard something of *Jesus' kingdom*; possibly he has heard others talk about this kingdom, even if he has not at some previous time heard Jesus himself speak. The reply of the Savior was as simple and brief as the confession of the penitent thief; but, oh what a promise was summed up in those few words—"Verily I say unto you, *To-day* shalt thou be with me in *paradise*!"

For many long years I have tried to think what a wonderful privilege it would be to be with the Savior, as the disciples once went with him here on earth. When I read of how Jesus called to the blind man, it has seemed to me as if I would rather hear his voice calling *me* than to have any other wish granted that this world or this *universe* has to offer. And this poor thief was honored with a promise of the privilege of being with Christ Jesus. Yes, and he was cheered amid his deathly agony by the promise that it should be done "*to-day*." And, finally, he was to be with him in *paradise*. All this was his reward for just those few words of *recognition* and of *acceptance*, and as a reward for that simple prayer, "Lord, remember me."

"Now," said the speaker, "we come to the point of this illustration. These two thieves were sinners—yes, hardened criminals. They confessed it, and did not dispute it. When one continued to rail and taunt the Savior, the other turned and defended him while he rebuked his companion. He turned from *crime* and *sin* to *Jesus* and *justice*. The two thieves had gone thus far through life *side by side*, but *now* they separate. A sharp dividing line comes between them. One confesses Christ, and asks to be remembered by him; the other one *dies* as he had *lived*." The speaker went on to say, "Dear brothers, the line that separated the two thieves separates us here to-night; and part of you, in your own hearts, decline to recognize the claims of the Son of God. You decline to ask him to be your help, your intercessor, your friend, your spokesman. Those of you on the other side of the line have chosen him—have believed in him, and are resting in his promises and in his willingness to save. Oh will you not—at least one of you—come 'over the line'?"

* Oh! tender and sweet was the Master's voice
As he lovingly called to me,
"Come over the line—it is only a step—
I am waiting, my child, for thee."

"Over the line," hear the sweet refrain;
Angels are chanting the heavenly strain:
"Over the line!" why should I remain
With a step between me and Jesus?

to-night?" Then he startled me by the thought that this very dividing line separates not only the audience embraced in one little room, but it separates and divides the whole wide world; and since that meeting I have had the thought in mind as I meet friends and acquaintances; and it seems to me I can pick them out one by one. Dear friends, is it not true? and are we not all on one side or the other? The Son of God has invited us all. He has said, "Come unto me, all ye that labor and are heavy laden." He has said, also, "Him that cometh unto me I will in no wise cast out." He attested his divine commission by the miracles in the olden time, and by more recent miracles of modern date. I mean these miracles that we see all round about us—these spectacles of penitent thieves and reformed men in every walk in life. A part of the world come to him, believe in him, and live and die trusting in him. Another part reject and scoff and ridicule, and find fault. Dear reader, can you not, as your eyes rest on this printed page, relent enough to say as did that poor thief on the cross, "Lord, remember me when thou comest into thy kingdom"? Oh how *easy* it seems to me, as I go about through the world, and meet men and women—yes, and little children—why should they object? why should anybody object to such a choice? There is something so inspiring in the thought of leaving the world with its trials and burdens, and coming to Jesus, that it animates me and wakes me up at just the thought of it. Oh how I do *long*—how I do *hunger* and *thirst* to hear people say, in the language of our text, "Lord, remember me"! One has to humble himself, I know; one has to acknowledge that he needs a Savior—that he is *not* all-sufficient in himself. Sometimes I think one needs to be in trouble. Again and again have I seen men and boys in jail. During the first few days they would lean back in their chairs with proud indifference, and say, "Well, they can keep me here just as long as they have a mind to. I think I can stand it to be boarded and lodged free of charge, just as long as they find any comfort and satisfaction in keeping me here." But as the days and the weeks and the *months* pass by, this proud spirit becomes subdued. I do not think that I have ever known *one* who did not sooner or later give up and beg piteously to be restored to liberty. One of these friends once said to me, "Mr. Root, I do not believe any human being ought under any circumstances to be punished as *I* have been punished here, by being kept in this prison with nothing to do." He was restless and wild, and he was stubborn and unyielding; but he was kept in close confinement with nothing to do and nothing to work at, and it finally broke his stubborn will. And so I think sometimes it needs *great trials*, *great losses*, and perhaps *great suffering*, to subdue us, to bring us to the point where we are willing to *ask* for help. Very likely it was a great trial to this poor thief; but his sufferings and anguish came and subdued him. Death was before him. There was no promise or hope of relief except *through* Christ Jesus. Is there any promise or hope for *you*, dear friend, outside of this "God-man"? Are you not *weary* of all that unbelief and skepticism have to offer? and are you not ready to accept that refuge? and can you not say, with the penitent thief, "Lord, remember me when thou comest into thy kingdom"?

Help me, dear Savior, thee to own,
And ever faithful be;
And when thou sittest on thy throne,
Dear Lord, remember me.

NOTES OF TRAVEL

FROM A. I. ROOT.

ON THE WAY TO CALIFORNIA.

To-day is the 18th of November, and I have bidden the dear friends at home adieu, and am well on my way. God bless the children! When I kissed them good-by the tears began to come in their eyes; and when I got round to Maud, with the new baby, I had to hurry out of the house for fear I should cry too, and then there would have been *three* babies, and one of them *almost* 52 years old. Perhaps Maud, as she lay propped up with pillows, shut out from the busy world, had been wondering whether her busy pa would find time to just drop in and bid the new baby (just five days old) good-by. Shut out from the world, did I say? No, no: for, on the contrary, a new world is just *opening* to her through that baby boy; and may God give her grace, faith, hope, and charity, to guide the little frail bark aright. Dear reader, *whatever* you do, don't forget the daughter, wife, or sister, when she becomes a mother for the first time.

PURE WATER TO DRINK.

A lady on the cars gave me a thought which I wish to give you. Speaking of avoiding fevers, she remarked they had *two* cisterns. One was used only to catch the water after the roof had been well washed off, and it was filled entirely and only with the water that fell in the winter. No warm summer showers were allowed to go in to warm it up. Then the drinking-water all comes from *this* cistern, and it is drawn by a chain-pump with little buckets that *aerate* the water. Will Mrs. Root take notice?—we are going to have just such an arrangement. The water from this cistern is not only beautifully pure, but so cold that no ice is needed clear on until July. The other cistern furnishes water for washing and other similar purposes.

The Northwestern Convention at Chicago.

Our attention was first called to some sections of most beautiful white honey brought by Hilton, gathered from the

GREAT WILLOW HERB, OR PURPLE FIREWEED, that covers acres upon acres in different parts of Michigan where the timber has been burned off. This plant seems always to yield honey. Tons upon tons of it go to waste every year. No whiter or prettier honey comes from any source in the world; and the only fault any one can find with it is, that it is a pure simple sweet, without any very distinct flavor of any kind.

BREAKING DOWN THE MARKETS BY RETAILING HONEY AT WHOLESALE PRICES.

Friend H. illustrated very forcibly the way in which honey-producers often spoil the markets. They reason thus: If they ship it to the city commission men, even if it sells for 16 or 18 cents after deducting for commission, freights, breakage, etc., they often get only about 13 cents, net cash, therefore they let it go to their nearest merchant or grocer for the same price. This establishes a price that commission merchants find it out of the question to compete with, and makes it very difficult for large honey-producers to get what they might otherwise, and to get, also, a good paying price for their product. When tons of honey are being sold in the cities for about 16 or 18 cents at *wholesale*, the bee-keeper should read the market reports, and charge his local grocer at least something near that. A remedy for this is to have a hon-

ey-buyer to look up the honey of good localities, and pay a proper price for it. Friend Hilton is at work at this very thing; and, while he pays producers all they ask, he gets a very fair margin for the trouble and risk in moving it into the cities, and at the same time keeps the price about where it belongs.

GETTING RAILROAD MEN TO UNLOAD HONEY WITH CARE.

Following close on the above comes the above. Many times, when the honey producer or buyer loads his honey on the car with the utmost care, packing it with straw, etc., after it has reached its destination in perfect order it is smashed up by being pulled out of the car in a hurry by the average railroad hands. On this account, many who send honey by the carload go along with it and superintendent taking it off. This is, of course, expensive, and, in some cases, commission men will agree to be on hand when the car arrives, and look after the safe unloading.

Byron Walker says the failure of a Chicago commission house to look after three carloads of comb honey that he had shipped them cost him over \$200. I know of at least one case where a railroad company paid damages for honey that was damaged during a transfer. Two commission men were with us at the convention, and gave us very material aid during our discussions. They were especially helpful in our discussions in regard to having some established and generally recognized rules for grading honey. Considerable time was spent on the matter, and the result was a set of rules which we hope to give in another issue. I believe our old friend M. M. Baldrige first outlined them, and the convention then argued and discussed them. R. A. Burnett and a representative of S. T. Fish & Co. gave material aid.

Quite a few reported honey-dew during the past season, very black and very poor. Some of it was sold as low as 5 cents per lb., and one lot went at only 2½ cents to a man who used it for making *cockroach poison*. There was some joking in regard to this new use for poor grades of honey. Friend Larrabee, of the Michigan Agricultural College, was present and gave us some account of his experimental work during the past season. Rape was tested to the extent of 8 acres; but, although it gave a profusion of blossoms, covered with bees, no honey, to be perceptible, could be found in the hives; but the bees gathered immense quantities of pollen from it. A large field of sweet clover is growing finely, but will not bloom until another year. An experiment to determine how many pounds of honey are required for one pound of wax seemed to indicate about 11 pounds.

DOES IT PAY TO CONTRACT THE BROOD-NEST FOR WINTERING?

The general testimony seemed to be that it did not; and especially was this thought to be the case where a hive containing only eight frames is used.

Division-boards for contracting the brood-nest during winter are now but seldom used, especially with eight-frame hives.

AN EXPERIENCE MEETING.

Perhaps no one feature of the convention contributed so much to the general interest as an exercise in which all took part. Our worthy president, Dr. Miller, suggested, on the afternoon of the first day, as soon as we had a pretty good general attendance, that we wanted to get acquainted with every bee-man present; and to accomplish this, each in his turn stood up, gave his name, State, postoffice address, then told us how many bees he kept, and what his crop of honey had been. There were to be no excuses nor exceptions; and be-

fore we got through, the merriment and friendly bantering got to be so general that every one present knew everybody else; and the result was, we were like a great family during a general reunion during the remainder of the session; and I take great pleasure in recommending this method of getting acquainted to conventions in general.

PREVENTION OF SWARMING.

This was, by universal consent, called as yet an unsolved problem.

A NOVEL METHOD OF FINDING QUEENS.

This was given by M. M. Baldrige. Have a light shallow cover, say two inches deep, that can be put over the frames of any hive; and a little drumming while this cover is on will get the queen with a few bees, up on the under side. By drumming one hive, then the next, and so on, and then going back to the one drummed first, you may secure a dozen queens in a very short time, without taking a comb out of the hive. This will work equally well with box hives having a hole or holes in the top. If you drive up only a teacupful of bees, the queen is pretty sure to be among them.

SHALL HONEY, LIKE MAPLE SUGAR, RECEIVE A BOUNTY.

This was discussed considerably. If the low price of cane sugar affects the maple-sugar industry, will it not also affect *our* industry? With a large yield of honey it might; but during the past season the price has kept up pretty well.

CURING COMB HONEY.

B. Taylor gave us an account of the way he ripens his comb honey by the heat of the sun, and the heat of a stove when the sun doesn't shine. Doolittle, you may remember, works in a similar way. When comb honey is taken from the hive when first capped, unless it is ripened, and the water well evaporated out of it in some such way, it is very apt to get watery and sour, and is not nearly equal in quality to honey that has had its looks injured by being left on the hive too long.

The presence of Mrs. Harrison, Miss Emma Wilson, Dr. Mason, Hon. J. M. Hambaugh, A. N. Draper, Mr. Abbott, of St. Joseph, Mo., O. O. Poppleton, of Florida, and a good many others, added much to the interest and profit of the convention.

ON THE ROAD AGAIN.

My country, 'tis of thee,
Sweet land of liberty.

The above lines come to me as I gaze over the prairies of Iowa. In Chamberlain's new book on tile draining he computes how many *acres* it took to sustain *one man* before civilization. Then he takes up the march of progress step by step, until now, when even a single acre may, by *agriculture*, give *many* people the necessities of life. If I forget, and he did not make *quite* the last statement, I am going to make it in my part of the book. With this thought in mind, how many people might live where my eyes are looking so hopefully now! I do love these broad acres, and this land of liberty. I almost feel ashamed of myself for being so happy this morning. If I am tempted to feel that I am away off *alone*, some little incident reveals that my next neighbor among the passengers has read *GLEANINGS*, and feels it a pleasure to meet me. When I opened my eyes I knew we were in the land of snows, because of the great board fences on the north side of the track. A few miles further and we began to see snow on the ground, and now every thing is white. Snow-fences are seen only when the bank on the north side is higher than the track; and as

there are here *two* great fences instead of one, I think we must be in a great region for snow. We are approaching the line between Iowa and South Dakota. Now all the trees are white with frost and snow, as well as the fields. Beautiful winter!

Within an hour the snow-belt was passed, and now we have bare ground again. So it seems that snows, like summer showers, may be more or less local in their character.



In the multitude of counselors there is safety.—PR. 11:14.

DON'T fail to take in the North American at Albany, Dec. 8 to 11, you bee-keepers of the East.

The York State Bee-keepers' Association will meet in joint convention at Albany with the North American.

THE junior editor expects, in the near future, a visit from Dr. C. C. Miller, and W. Z. Hutchinson, of the *Review*; that is, they will stop off at Medina on their way to the Albany convention.

LETTERS and reports at hand indicate that the Northwestern at Chicago was a grand convention. Many important and vital subjects were discussed. See Dr. Miller's letter, and Notes of Travel, elsewhere, on this point.

THE family temper usually takes its tone from the parents; and if the father be harsh, grumbling, unappreciative, and the mother peevish, fault-finding, or discontented, how can the children be expected to regard home as the dearest spot on earth?—*Rural New-Yorker*.

If there is any one of the new things in bee-keeping that is surely working its way into favor it is the bee-escape. We can not remember to have had an adverse report in regard to them. To be able to take off comb and extracted honey without shaking or brushing a bee is a great thing.

Bro. Newman, of the *American Bee Journal*, in commenting on the concessions granted to bee-keepers by Mr. J. T. Ripley, of the Western Classification Committee, says:

Bee-keepers can generally get what they unite in asking for in the line of rulings of postoffice and railroad officials, etc., because they act like bees, and make such a "buzzing" about their ears that they are glad to accede to the demands.

We regret to notice that Bro. Newman, of the *American Bee Journal*, is "enjoying" rather poor health. We know it's no joking matter, and hope for his speedy recovery to good health. It is a tremendous task to get out a weekly bee-journal year after year, and on time. One of the best tonics for a sick man is to let him know that his efforts to please his patrons are appreciated. If that's the case, tell him so when you renew.

A CORRESPONDENT in one of the bee-journals is very much disgusted with the practice current among apicultural writers of addressing each other "brother" or "friend," and urges that we are profaning the sacred use of the terms. Well, it may be the terms *are* used too

indiscriminately, but we ask, Where will you find a more "brotherly" or "friendly" lot of people than among bee-keepers? Our bee-journals generally are conspicuous for the brotherly feeling, even toward rivals, that pervades them; and the times when strife used to be rife among them has gone by. "Brother" and "friend," when used by bee-keepers, *means* something.

THE following has been received from Secretary Dadant:

Friend Ernest:—The Northwestern convention urges upon the North American convention the following discussions:

Resolved, That, if the corn, beet, and maple-sugar growers are rightly entitled to a bounty of 2 cents per pound, the bee-keepers are entitled to the same, as all grades of sugar are in direct competition with honey.

Also the resolutions passed by the Northwestern on grading honey, and sizes of packages.

The topics given in the program are not the only ones that will be discussed; but there is much to be done that is not down on the program.

DR. MILLER asks, in Straws, why we speak any more of the competition of California honey than we do of the New York or Illinois product. The honey of the Eastern States—that is, east of the Mississippi—of the same grade does not differ very much in price; but California honey is cheaper. While it is equal in body and color, and by some is said to be superior, it sells for a little less money, and hence it must necessarily compete with Eastern honey; and the effect, probably, is to reduce a small trifle the market price of it. Corn is produced more cheaply on the immense prairies than the same can be raised on smaller farms in the East; hence western corn competes with the eastern product—that is, it crowds the latter down to a lower price.

ONE of the things we ought to discuss at the North American at Albany is the securing of an appropriation from the national government so that our national organization may be a little better able to grant substantial benefits to its members, and to further the interests of apiculture in general throughout the United States. The Ontario Bee-keepers' Association, of Canada, as well as the Illinois State Bee-keepers' Association, has an appropriation. If any organization needs it, it is the North American. We throw the hint out now, so that we may be thinking it over and be ready to discuss the matter at Albany. Our treasury is not empty by any means; but its resources are so limited that the association can not do the good it might do with larger funds to back it from the pockets of Uncle Sam. We are to have the presence of Hon. J. M. Hambaugh, the one who secured an appropriation of \$500 for the Illinois State Bee-keepers' Association. Doubtless he can outline the course for us to pursue.

THE products of the hive are commonly considered to be wax and honey; but the bee-sting poison is beginning to be another product. For one large establishment in pharmacy we filled an order for ten thousand bee-stings—yes, *ten thousand bee-stings* pulled out one by one. These were then thrown into a bottle containing sugar of milk. "Cruel!" you say. But it was for the cause of humanity; and, besides, the bees were immediately crushed out of existence after the removal of the sting, with a pair of forceps. We have also, on former occasions, filled several orders for the same concern, for 10 lbs. of live bees to be immersed in alcohol. We were instructed to pour the bees into a large bottle, shake them up, so as to arouse

their ire, then pour alcohol over them. From both stings and from the bees is extracted a powerful medicine called "apis mellifica," though that from the stings must be more concentrated. Within the last few days we have had a call for *royal jelly*. The party who ordered it was willing to pay any price for two ounces of the pure article. We replied that it would be impossible for us to fill the order at this time of year so far north, and referred him to one of our queen-breeders in the South—Mr. J. D. Fooshe, Coronaca, S. C., who has undertaken to fill the order. Well, the products of the hive are three—possibly four: honey, wax, stings, and royal jelly, the two last being for medicinal purposes.

OUR subscription list at this date is 10,305.

THE 26th annual meeting of the Michigan State Bee-keepers' Association will be held in Grand Rapids, Dec. 31 and Jan. 1 next. We expect to be present at this convention. See program in next column. It promises to be a good one.

MAKE YOUR WILL.

YES, everybody should make one as soon as he is of legal age. If you haven't any thing to will, after you have made a will you will be more likely to scratch around and have something; and especially should every married couple make their wills. You can not begin too early, and you can begin too late, for hardly a day passes but that we see some sad consequences just because "he didn't make a will." You may think that you haven't property enough to bother with; but, my dear friend, everybody is liable to have property. Funny, isn't it? Well, if you do not make a will, the courts and the lawyers will take quite a slice of your property, and what there is left will likely be tied up in such a way that your wife can have the benefit of but a small part of it, no matter how badly she needs it. Every Christian should make a will; but I am afraid that Christians are as careless and unfeeling in this matter, oftentimes, as other people. I suppose that, in the majority of cases, you would prefer to have your wife take charge of every thing, and stand in your place; and she can do this without lawyers or courts if you just leave a little scrap of paper, saying, "I leave every thing to my dear wife." If more children are likely to come to your home, some mention or provision should be made for them in the will. Your lawyer can tell you just how to do it. So you see I am beginning to feel friendly toward the family lawyer as well as toward the family physician. It is a little funny, is it not? But don't you think it indicates that I am beginning to be a broader and better man than I have been? Never mind; get right at it and make your will this minute, if it is not done already.

CONVENTION NOTICES.

The Eastern New York Bee-keepers' Association will meet with the North American, at Albany, Dec. 8 to 11.
Fuller's Station, N. Y. W. S. WARD, Sec.

The Illinois State Bee-keepers' Association will hold its annual convention at Springfield, Ill., Dec. 16 and 17, at the Capitol building. We have the promise of reduced rates on the Chicago, Alton & St. L. R. R., and expect low rates on all the roads running into Springfield. We have special rates at the St. Nicholas Hotel, of \$1.50 per day, where two occupy one bed. A good program is expected. J. A. STONE, Sec.
Bradford, Ill.

The Michigan State Bee-keepers' Association will meet in Grand Rapids, Mich., on Thursday, Dec. 31st, 1891, and Friday, Jan. 1st, 1892.
G. E. HURON, Sec., Fremont, Mich.

PROGRAM.

Morning session, Dec. 31, 10 A.M. Secretary's report of last

meeting. Appointment of committees. Reception of members. Adjournment.

Afternoon session. Annual address, by Pres. R. L. Taylor, The Best All-purpose Brood-frame, J. H. Larrabee, Agricultural College, Mich. The Bicycle vs. the Horse, for Out-apiry Trips, E. R. Root, Medina, O. Question-box. Reception of members. Adjournment.

Evening session, 7 o'clock. Bees, Poultry, and Fruit, J. A. Pearce, Grand Rapids, Michigan. Trying New Things, W. Z. Hutchinson, Flint, Mich. Question-box. Adjournment.

Jan. 1, 9 A.M. Cellar vs. Outdoor Wintering, A. J. Acker, Marquette, Mich. What business can be profitably combined with Bee-keeping? Wm. E. Gould, Fremont, Mich. Cause and Cure of Foul Brood, Dr. A. B. Mason, Auburndale, O. Question-box. Reception of members. Adjournment.

Afternoon session, 2 o'clock. The Uses and Abuses of Foundation, M. H. Hunt, Bell Branch, Mich. Carniolan Bees, H. D. Cutting, Clinton, Mich. Deciding place of next meeting. Election of officers. Reports of committees. Financial report of secretary. Miscellaneous business. Adjournment.

PROGRAM

of the North American Bee-keepers' Association, to be held in Agricultural Hall, Albany, N. Y., Dec. 8 to 11.

FIRST DAY—TUESDAY, DEC. 8.

Informal meeting in the evening.

SECOND DAY—WEDNESDAY, DEC. 9.

9 A. M.—President's Address.—P. H. Elwood, Starkville, N. Y.

Appointment of Committees, and routine business.

10:30 A. M.—Some of the Newer Races of Bees.—Frank Benton, Washington, D. C. Discussion. Question-box.

2 P. M.—The Prevention of Swarming.—W. F. Clarke, Guelph, Ontario, Canada. Discussion: The Prevention and Control of Swarming.

3:30 P. M.—The Italian Bee. What are the principal points of excellence, and to which qualities should we give the preference with a scale of markings as for neat stock?—G. H. Knickerbocker, Pine Plains, N. Y. Discussion. Question-box.

7:30 P. M.—The Outlook for Apiculture at the Columbian Exposition.—A. B. Mason, Auburndale, O. Discussion.

THIRD DAY—THURSDAY, DEC. 10.

9 A. M.—Election of Officers. Selection of next place of meeting. Business of the Association. Volunteer contributions.

10:30 A. M.—Discussion: Prices and uses of Honey and Sugar. Question-box.

2 P. M.—Can we settle upon two sizes of sections as standard?—C. C. Miller, Marengo, Ill. Discussion: What the Market demands for Packages and Grading. To be participated in by honey merchants and beekeepers.

3:30 P. M.—Discussion: What ought the Department of Agriculture to do in Apiculture? Question-box.

7:30 P. M.—The Bees, the Location, and the Apiarist.—G. M. Doolittle, Borodino, N. Y. Discussion: Should Bee-keeping be made a Specialty?

FOURTH DAY—FRIDAY, DEC. 11.

9 A. M.—Some facts not generally known about rendering beeswax.—R. F. Holtermann, Brantford, Canada. Discussion: Rendering and Purifying Beeswax, and Making Comb foundation Sheets.

10:30 A. M.—Report of Committees, and unfinished business. Adjournment.

HOTEL RATES.

Globe Hotel, \$2.00 per day. American Hotel, \$2.00 per day. Cox Bros., No. 4 William St., \$1.00 per day (temperance house). W. H. Krayer, 488 Broadway, European plan, Rooms, 50, 75 cts., \$1.00. Kimball House, 69 Washington St., \$1.00. Merchant's Hotel, 497 Broadway, \$2.00. I. Keeler, Restaurant, 56 State St., Odel Restaurant, 94 State St.

REDUCED RATES ON RAILROADS.

One and one-third regular fare for round trip. The concession is for delegates and others going to Albany to attend the North American Bee-keepers' Convention, Dec. 8—11, 1891, from the following described trunk-line territory:

By the Central Traffic Association from St. Louis, and nearly all points in Illinois, Indiana, Ohio, Pennsylvania, as far east as Pittsburg; New York, as far east as Salamanca; and Ontario, Canada, as far north as Toronto. By the Trunk Line Association, which includes the remainder of New York, Pennsylvania, and New Jersey; and the Southern Passenger Association, which includes all the principal roads in the Southern States.

Bee-keepers from Vermont can obtain reduced rates over the Delaware & Hudson Canal Co. R. R., which can be conveniently taken at Addison Junction or Ticonderoga, N. Y., or at Rutland, Vt.

INSTRUCTIONS TO PERSONS ATTENDING THE MEETING.

1. The concession is for delegates and others going to Albany from any of the above described trunk-line territory.

2. If the starting-point is located on some small road, or one not in either one of the three trunk-line associations making the concession tickets, should be purchased only to the most convenient place where a trunk-line certificate can be obtained, and thence by direct routes only, through to place of meeting.

3. The going ticket must be purchased within three days before, or not more than three days after, the opening date of the meeting, otherwise no reduction in fare will be made on the return passage.

4. Each person availing himself of the concession will pay full tariff fare going to the meeting, and get a certificate filled in on one side by the agent of whom the ticket is purchased. (The agents keep the certificates in stock.)

5. Present the certificate to the secretary at the meeting, that the other side may be filled in. Certificates are not transferable.

LITTLE PINE BOARDS.

We still have a plentiful supply of those little pine boards, about $\frac{3}{4}$ x8 or 9 inches long. We offer them at 20c per 100, or 600 for \$1.00.

EARLY ORDER DISCOUNT.

Remember that, during this month, the discount for early orders is 4 per cent, and applies to pages 10 to 27 of our catalogue. Business has been quite brisk the past two or three weeks, with orders from those who took advantage of the 5 per cent allowed before this date.

POSTAL GUIDE FOR 1892.

We use half a dozen Postal Guides in our office; and by taking so many we can offer them clubbed with GLEANINGS at a reduction. The cloth-bound Guide sells for \$2.50. We will furnish one prepaid, with GLEANINGS one year, for \$5.00, or the paper-bound book for \$2.50. Send your orders in at once, to avoid delay in delivery. We can furnish a limited quantity of old Guides that have been used one year, at \$1.00 each. Postage 15 cents extra.

ARE YOUR CATALOGUES PRINTED YET?

Our facilities were never better for doing aparian catalogue work. We probably have the largest assortment of cuts, illustrating bee-supplies, of any establishment in the world. Before you send your catalogue out to be printed, write to us for samples and prices. Those who sell our own goods have the free use of all our cuts. Don't put off your catalogue printing till it is too late. It is the early bird that catches the worm. We are in position now to give you prompt service.

CHRIST BEFORE PILATE.

This is the subject we have all been studying in our Sunday-schools the past week. It is also the subject of a very fine painting by Munchaski, which has created a world-wide sensation, and of which there have been many copies made. You will remember that, two years ago, we offered in our premium list one of the best of these reproductions. We still have a few of these left, which we offer, as long as they last, at 40 cents each, postpaid, or with other goods, or given free, postpaid, for one new subscription to GLEANINGS sent with your own renewal and \$2.00. It is a wonderfully suggestive help to the study of the Sunday-school lessons we are now having.

THICK-TOP BROOD-FRAMES WITH DIVIDED TOP.

In making up thick-top frames we get on many boards a piece not wide enough for a top-bar, but which will make half of one. Two of these halves make what we call a divided top-bar, which many use and prefer. In putting the frames together, a piece of foundation can be placed between the two halves, to fasten it. Many go to the expense of having top-bars split from one end nearly through to the other for the purpose of inserting the sheet of foundation when these divided tops would answer just as well, and can be furnished much cheaper. Since we began saving the pieces as above we have an accumulation of several thousand thick-top frames with these divided tops more than we have had calls for. Our regular thick-top frames sell for \$1.50 per 100; but to close these out we offer them at \$1.20 per 100, or \$2.75 per box of 250; 500 or more at \$1.00 per 100, in the flat, without comb-guides. If you want wooden comb-guides, add 10c per 100. Most of them are packed 250 in a box.

SOME TYPEWRITERS AT A BARGAIN.

We have, for the last two or three years, been using exclusively the Remington typewriters in our office, for we believed them, all things considered, the most durable. Besides, there is an advantage in having machines all of one kind, so that any of our operators can use any of them without learning a new keyboard. Something over a year ago the Hammond typewriter came out with what they called the Universal keyboard, by means of which a person who was accustomed to operating the Remington, for instance, could have a Hammond with keys arranged in the same way, and use it without learning over again. After examining the Hammond machine we were so much pleased with it that we have secured one for our use. Dr. Miller and G. M. Doolittle both use the Hammond, deciding on that after a careful examination of other

makes. The regular price of a new Hammond is \$100; but we have got track of two machines, one with the Ideal and the other with the Universal keyboard, both practically new, and in first-class order, that we can sell for \$75 each cash, if unsold on receipt of order. Here is a rare chance for some one. We have also an old-style Remington No. 1, which writes all small caps, like **THIS**, which we offer for \$25. There is probably more wear in one of these old No. 1 machines than in any other type-writer ever made. We have had this one in use almost ten years, yet it does good work, and, with proper care, will do good work for years to come. We prefer a machine with both caps and small letters, hence we offer this for sale at the above price, which makes it a bargain.

We have also on hand three of the old-style single-case World typewriters in good condition, that we will close out at \$5.00 each. Regular price is \$10.00, and these are practically new machines, although they have been in stock for some time. Further particulars, and samples of work, furnished to intending purchasers on application, if not previously sold. We apprehend that, at these prices, they will be snapped up quick.

SECOND-HAND FOUNDATION-MILLS.

We have the following second-hand foundation-mills in stock that some may rather have at the price than a new one. Of course, we'd rather sell you a new machine than one of these, and think, also, that it would give better satisfaction usually; still, for those who wish to make only for their own use, or in limited quantities, one of these machines will probably do you as well as a new one. We have quite an assortment to choose from, and the list will be corrected as they are sold. The earliest orders will have the best choice.

One 6-inch mill, latest pattern, for thin or extra thin surplus foundation, hexagonal cell. This has been used in our wax-room till the rolls have become pitted with little holes and imperfections that show slightly in the foundation, so it does not look quite as well as that from a new machine, but is just as good for use in the hive. A new machine this size sells for \$15.00. We offer this for \$7.00.

One 6-inch that answers to same description as above, but in slightly better condition. We offer this for \$8.00.

One new 10-inch Pelham mill, latest pattern for heavy brood foundation. We took this in exchange for other goods from a customer who changed his mind before he had used it at all. It is new, and in perfect condition. Regular price, \$15.00. We offer it for \$11.00.

One old-style 10-inch, our make, with round cell, for medium brood foundation; has been used very little, and is as good now as a new mill at the time this was made, although not to be compared with our present make. A new mill of this size sells for \$20.00. We offer this for \$12.00.

One 10-inch, which answers to the same description as above, but made later, and is a little better machine. Will sell for \$14.00.

One 12-inch, hexagonal cell, light-brood mill of recent make that we have used in our wax-room for light brood, and which will make thin surplus about 10 ft. to the pound. It is the same style and build as our regular 10-inch machine, except that it is two inches wider. We offer this for \$15.00.

One 12-inch hexagonal cell, medium or heavy brood mill of the original Washburn make, and in excellent condition. If wax is dipped the right thickness this will make excellent foundation. I believe it originally sold for \$53.00. We offer it now for \$17.00.

One 12-inch Dunham round-cell heavy-brood mill. This was originally used by the Dadants, and will make good foundation yet. We offer it for \$18.00.

One 12-inch Dunham round-cell heavy-brood mill, in excellent condition. We took this from E. France & Son, in exchange for a new mill to make lighter foundation more feet to the pound. Their only objection was that it made foundation heavier than they wished to use. Its condition is practically as good as new, although it makes foundation about 4 feet to the pound unless the sheets are dipped thin enough to make it lighter. We offer this for \$20.00, which is two-thirds the price of a new machine this size.

If any prefer we can submit samples of foundation from any of these machines before you buy. We shall be pleased to send samples from new machines if you would rather have that kind.

GLEANINGS IN BEE CULTURE.

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MUSICAL GOODS **GUITARS** CATALOGUE FREE
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Has No Fish-bone in Surplus Honey.



Being the cleanest is usually worked the quickest of any Foundation made.

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Square Glass Honey-Jars,
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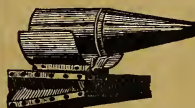
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